

DEPARTMENT OF ENERGY  
FY 1998 CONGRESSIONAL BUDGET REQUEST  
(Changes from FY 1997 Congressional Budget Request are denoted with a vertical line in left margin.)

OFFICE OF WASTE MANAGEMENT  
DEFENSE ENVIRONMENTAL RESTORATION AND WASTE MANAGEMENT  
(Tabular dollars in thousands. Narrative material in whole dollars.)

1. Title and Location of Project:	Defense Waste Processing Facility Saltstone Vault #2	2a. Project No.: a/
	Aiken, South Carolina	2b. Operating Expense Funded

SIGNIFICANT CHANGES

- o Project TEC reduced \$7,752,000 from earlier estimate due to reduction of the vault to one-half of its original size.
- o A four year delay, due to a change in need data, caused construction completion to move from 4th Qtr., FY 1996 to 4th Qtr., FY 1999.

DEPARTMENT OF ENERGY  
 FY 1998 CONGRESSIONAL BUDGET REQUEST  
 (Changes from FY 1997 Congressional Budget Request are denoted with a vertical line in left margin.)

OFFICE OF WASTE MANAGEMENT  
 DEFENSE ENVIRONMENTAL RESTORATION AND WASTE MANAGEMENT  
 (Tabular dollars in thousands. Narrative material in whole dollars.)

1. Title and Location of Project:	Defense Waste Processing Facility Saltstone Vault #2 Aiken, South Carolina	2a. Project No.: a/
		2b. Operating Expense Funded
3a. Date A-E Work Initiated, (Title I Design Start Scheduled):	4th Quarter FY 1991	5. Previous Cost Estimate:
* 3b. A-E Work (Titles I and II) Duration:	27 Months	Total Estimated Cost (TEC) -- \$19,455
* 4a. Date Physical Construction Starts:	3rd Qtr. FY 1998	Total Project Cost (TPC) -- \$20,280
4b. Date Construction Ends:	4th Quarter FY 1999	6. Current Cost Estimate:
		TEC -- \$11,703
		TPC -- \$12,920
7. <u>Financial Schedule (Federal Funds):</u>		

<u>Fiscal Year</u>	<u>Appropriation</u>	<u>Adjustments</u>	<u>Obligations</u>	<u>Costs</u>
Previous	\$ 1,000		\$ 1,000	\$ 538
1993	0		0	125
1994	161	-258 b/	-97	240
1995	0		0	0
1996	0		0	0
1997	0		0	0
1998	3,077		3,077	3,077
1999	5,223		5,223	5,223
2000	2,500		2,500	2,500

a/ It should be noted that this project is justified as an operating expense funded construction project. It has been reformatted only to comply with the revised DOE Order 5100.3. It is not intended to be funded as a capital line-item.

b/ Reflects reduction due to change in need date.

1. Title and Location of Project:	Defense Waste Processing Facility Saltstone Vault #2 Aiken, South Carolina	2a. Project No.: a/ 2b. Operating Expense Funded
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8. Project Description, Justification and Scope

Decision Unit: Waste Management - Defense

	<u>TEC</u>	<u>PREV.</u>	<u>FY 1996</u>	<u>FY 1997</u>	<u>FY 1998</u>	<u>OUTYEAR</u>	<u>CONSTRUCTION START - COMPLETION DATE</u>
*	\$ 11,703	\$ 903	\$ 0	\$ 0	\$ 3,077	\$ 7,223	1st Qtr. FY 1999 - 4th Qtr. FY 1999

\* The reduction from the previous TEC (\$19,455,000) to the current TEC (\$11,703,000) reflects the construction of the vault to one half (1/2) its original size.

Due to a change in need for this project, the construction completion date of 4th Qtr. FY 1996 has been changed to the 4th Qtr. FY 1999.

This project provides the design and construction of Vault #2 in the Z-Area saltstone disposal facility. The vault will be a concrete structure with approximate outside dimensions of 300 feet in length, 200 feet in width, and 25 feet in height. The interior of the vault will be divided into 6 cells, which have approximate dimensions of 100 feet by 100 feet. The cells will be arranged into two rows of three cells. The cells will be filled with saltstone grout one at a time. The vault will have a permanent roof supported by a system of open web steel joists. Vault #2 will be built adjacent to, but not connected to, Vault #1.

This project will ensure that the Z-Area saltstone facility will continue to operate at designed production rates and fulfill its waste disposal commitments by providing an additional 1.4 million cubic feet of vault space. In order to fulfill this obligation, additional saltstone vault space must be provided by 1st quarter FY 2001. This additional vault space is required due to the projected In-Tank Precipitation (ITP) process startup and the continued salt waste flow rates to the facility from the Effluent Treatment Facility (ETF).

Saltstone is the end product of salt waste streams generated by the ETF and the ITP process. This waste is passed to Tank 50 in H-Area, and subsequently is combined with flyash, slag, and cement in Z-Area to make a cementitious grout, which is pumped into large concrete vaults and allowed to solidify. The vaults are intended to provide the necessary diffusion barrier for the long-term performance of the saltstone and provide weather protection until final closure. After a vault has been filled, it will be sealed by filling all of the void spaces with clean grout. This will constitute interim closure. Twenty to thirty years later, a final closure consisting of a clay cap and soil overburden will be constructed. The purpose of this final closure is to protect the vaults from rainwater infiltration by diverting the rainwater away from the vaults.

The purpose of this project is to ensure that the Z-Area saltstone facility will continue to operate at designated production rates and fulfill its waste disposal commitments, the Z-Area saltstone facility is scheduled to fill the existing vault space by the 4th quarter FY 2000.

1. Title and Location of Project:	Defense Waste Processing Facility Saltstone Vault #2 Aiken, South Carolina	2a. Project No.: a/ 2b. Operating Expense Funded
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8. Project Description, Justification and Scope (continued)

If funds are not received for this project, the saltstone facility will not be able to be completed causing Z-Area to be shut down after 4th quarter FY 2000 and support for ITP and ETF not to be provided.

This project will have negligible annual operating and maintenance cost.

FY 1998 funding will be used to revise Title II Design, initiate procurement bid cycle, and start the construction phase.

The annual gross facility cost is estimated to be \$10,000.

9. Details of Cost Estimate

	<u>Item Cost</u>	<u>Total Cost</u>
a. Design and Management costs .....		\$ 2,020
* 1. Engineering design and inspection at approximately 9.1 percent of construction costs,		
* Item c (Design, Drawings, and Specifications: \$750) .....	\$ 750	
* 2. Construction Management Costs .....	460	
* 3. Project management at 9.9 percent of construction costs (item c) .....	810	
b. Land and land rights .....	0	
c. Construction costs .....		8,203
1. Improvements to land .....	471	
2. Buildings .....	0	
3. Other structures .....	7,732	
4. Utilities .....	0	
5. Special facilities .....	0	
d. Standard equipment .....		0
e. Major computer items .....		0
f. Removal cost less salvage .....		0
g. Design and project liaison, testing, checkout and acceptance .....		0
h. Subtotal (a through g) .....		\$ 10,223
i. Contingencies at approximately 15 percent of above costs .....		1,480
j. Total line-item cost (section 11, a. 1. (a)) .....		\$ 11,703
k. LESS: Non-Federal contribution .....		0
l. Net Federal total estimated cost (TEC) .....		\$ 11,703

1. Title and Location of Project:	Defense Waste Processing Facility Saltstone Vault #2 Aiken, South Carolina	2a. Project No.: a/
		2b. Operating Expense Funded

10. Method of Performance

Construction and procurement will be accomplished utilizing fixed-price subcontracts awarded on the basis of competitive bidding. Design and inspection shall be performed by the Management and Operating (M&O) contractor.

11. Schedule of Project Funding and Other Related Funding Requirements

	<u>Previous Years</u>	<u>FY 1996</u>	<u>FY 1997</u>	<u>FY 1998</u>	<u>Outyears</u>	<u>TOTAL</u>
a. Total facility costs						
(1) Total facility costs						
(a) Line item (Section 9,j) . . . . .	\$ 903	\$ 0	\$ 0	\$ 3,077	\$ 7,723	\$ 11,703
(b) Plant engineering and design . . . . .	0	0	0	0	0	0
(c) Operating Expense Funded equipment . . . . .	0	0	0	0	0	0
(d) Inventories . . . . .	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
(e) Total fac. costs (Federal and Non-Federal) . . .	\$ 903	\$ 0	\$ 0	\$ 3,077	\$ 7,723	\$ 11,703
(2) Other project costs						
(a) R&D necessary to complete project . . . . .	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0
(b) Conceptual design costs . . . . .	717	0	0	0	0	717
(c) Decontamination & Decommissioning (D&D) . . . . .	0	0	0	0	0	0
(d) NEPA documentation costs . . . . .	0	0	0	0	0	0
(e) Other project-related costs . . . . .	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>500</u>	<u>500</u>
(f) Total other project costs . . . . .	\$ <u>717</u>	\$ <u>0</u>	\$ <u>0</u>	\$ <u>0</u>	\$ <u>500</u>	\$ <u>1,217</u>
(g) Total project costs . . . . .	\$1,620	\$ 0	\$ 0	\$ 3,077	\$ 8,223	\$ 12,920
(h) LESS: Non-federal contribution . . . . .	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
(i) Net Federal total project cost (TPC) . . . . .	\$1,620	\$ 0	\$ 0	\$ 3,077	\$ 8,223	\$ 12,920
b. Related annual funding (estimated useful life of facility project--30 years)						
1. Facility operating costs . . . . .						\$ 5
2. Facility maintenance and repair costs . . . . .						5
3. Programmatic operating expenses directly related to the facility . . . . .						0
4. Capital equipment not related to construction but related to the programmatic effort in the facility . . . . .						0
5. GPP or other construction related to the programmatic effort in the facility . . . . .						0
6. Utility costs . . . . .						0
7. Other costs . . . . .						<u>0</u>
Total related annual funding . . . . .						\$ 10

1. Title and Location of Project:	Defense Waste Processing Facility Saltstone Vault #2 Aiken, South Carolina	2a. Project No.: a/ 2b. Operating Expense Funded
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12. Narrative Explanation of Total Project Funding and Other Related Funding Requirements

The purpose of this project is to ensure that the Z-Area Saltstone Facility will continue to operate at designated production rates and fulfill its waste disposal commitments. The Z-Area Saltstone Facility is scheduled to fill the existing vault space by the 4th quarter FY 2000. If funds are not received for this project, the Saltstone Facility will not be able to be completed causing Z-Area to be shut down after 4th quarter FY 2000 and support for ITP and ETF not to be provided.

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OFFICE OF WASTE MANAGEMENT  
DEFENSE ENVIRONMENTAL RESTORATION AND WASTE MANAGEMENT  
(Tabular dollars in thousands. Narrative material in whole dollars.)

1. Title and Location of Project:	Expedited Technology Demonstration Project, Lawrence Livermore National Laboratory, Livermore, California	2a. Project No.: <u>a/</u> 2b. Operating Expense Funded
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SIGNIFICANT CHANGES

- o The Mixed Waste Management Facility (MWMF) project scope has been reduced and has been renamed Expedited Technology Demonstration Project.
- o The MWMF will no longer be part of the Decontamination and Waste Treatment Facility (DWTF) project.
- o The Total Project Cost has decreased to \$25.894 million.

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OFFICE OF WASTE MANAGEMENT  
DEFENSE ENVIRONMENTAL RESTORATION AND WASTE MANAGEMENT  
(Tabular dollars in thousands. Narrative material in whole dollars.)

1. Title and Location of Project:	Expedited Technology Demonstration Project, Lawrence Livermore National Laboratory, Livermore, California	2a. Project No.: <u>a/</u>
		2b. Operating Expense Funded
3a. Date A-E Work Initiated: 3rd Qtr. FY 1994		5. Previous Cost Estimate: Total Estimated Cost (TEC) -- N/A Total Project Cost (TPC) -- \$59,700
3b. A-E Work (Titles I & II) Duration: 25 months		
4a. Date Physical Construction Starts: 3rd Qtr. FY 1996		6. Current Cost Estimate: TEC -- N/A TPC -- \$25,894 <u>c/</u>
4b. Date Construction Ends: 3rd Qtr. FY 1998		
7. <u>Financial schedule (Federal Funds):</u> <u>b/c/</u>		

<u>Fiscal Year</u>	<u>Appropriation</u>	<u>Adjustments</u>	<u>Obligations</u>	<u>Costs</u>
1993	\$ 1,550	-853 <u>d/</u>	\$ 697	\$ 483
1994	9,730	-500 <u>d/</u>	9,230	7,870
1995	7,656	-2,000 <u>b/</u>	5,656	7,230
1996	11,311	-5,000 <u>d/</u>	6,311	4,568
1997	2,000		2,000	3,743
1998	2,000		2,000	2,000

- a/ It should be noted that this project is justified as an operating expense funded construction project. It has been reformatted only to comply with the revised DOE Order 5100.3. It is not intended to be funded as a capital line item.
- b/ Reflects FY 1995 rescission of \$2,000,000.
- c/ TPC reduction reflects cost savings as the result of reducing Mixed Waste Management Facility (MWMF) project scope and deleting the requirement to house MWMF in DWTF. The project has been renamed Expedited Technology Demonstration Project. The revised baseline was approved in November 1996.
- d/ Uncosted carryover adjustment.



1. Title and Location of Project:	Expedited Technology Demonstration Project, Lawrence Livermore National Laboratory, Livermore, California	2a. Project No.: <u>a/</u> 2b. Operating Expense Funded
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8. Project Description, Justification and Scope a/

This project is an operating expense funded construction project that includes Capital Equipment Not Related to Construction (CENTRC) funds for fabrication of capital equipment. It was reformatted only to comply with DOE Order 5100.3. It is not intended to be funded as a construction line item.

The scope of the Expedited Technology Demonstration Project (ETD) is to design, construct, and startup a pilot-scale facility to demonstrate and evaluate the operation and integration of technologies for the treatment of low-level, organic, mixed waste; to demonstrate alternatives to the use of incineration; to demonstrate equivalency with applicable Federal and State incineration-based standards; and to meet other Resource Conservation and Recovery Act (RCRA) Land Disposal Restrictions, such as Universal Treatment Standards. The testing and evaluation will be performed in building 292. The building is currently undergoing general plant project modifications.

The primary treatment technologies selected for initial operations include Molten Salt Oxidation (MSO) and Mediated Electrochemical Oxidation (MEO). Due to budget reductions in FY 1995 and the outyears, the project scope was reduced, eliminating demonstration of MEO. The implications of this descoping, including impact on cost and schedule have been evaluated during FY 1995. In addition to the primary process systems, the integrated facility will include ancillary systems, such as salt recycle for MSO and acid recovery for MEO, as well as process support systems (including receiving and shipping, feed preparation, final forms, off gas, water treatment, analytical services, and supervisory and local instrumentation and control).

In FY 1996 the project scope was further reduced to include only demonstration of an integrated MSO system, off gas, and salt recycle sub-systems, and final forms.

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a/ The scope, schedule and cost of the project are still being evaluated and are not fully reflected in this data sheet.

1. Title and Location of Project:	Expedited Technology Demonstration Project, Lawrence Livermore National Laboratory, Livermore, California	2a. Project No.: <u>a</u> / 2b. Operating Expense Funded
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8. Project Description, Justification and Scope (continued)

The ETD project will support national DOE objectives, as well as the Waste Management objectives of the DOE-Oakland Operations Office and the laboratory.

- The ETD is part of the response of the Laboratory and DOE to the FFCA, since the technologies evaluated in ETD - after successfully demonstrated, permitted, and transitioned for treatment - will be used to treat applicable waste streams at LLNL and will be made available for deployment at other DOE, State and commercial sites.
- The ETD is being designed as an integrated demonstration facility, whereby the full treatment train for a given process technology is evaluated, optimized, and tested. This full treatment train involves not only the primary process system, but also includes ancillary systems (such as salt recycle for MSO and acid recovery for MEO) and process support systems (receiving, characterization, feed preparation, off gas, waste treatment, final forms, and instrumentation and control). In addition, NEPA, permitting, and other regulatory issues will be addressed. Industrial participation wherever practical is also a key objective, to provide commercial suppliers for specialized components.
- The ETD is designed as a demonstration project. Engineering issues (such as lifetime, throughput, reliability, life-cycle costs, etc.) are addressed as necessary for successful full-scale and/or commercial deployment of the technology.
- Engineering design data will be provided to the DOE community to feed into the design and construction of prototype or full-scale facilities. These data will include necessary engineering information related to plant design, NEPA and permitting guidance, operating data, applicable waste streams, systems analysis, process modeling, and technology transfer.

1. Title and Location of Project:	Expedited Technology Demonstration Project, Lawrence Livermore National Laboratory, Livermore, California	2a. Project No.: <u>a/</u> 2b. Operating Expense Funded
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9. Details of Cost Estimate a/b/

The costs shown are based on planned expenditures through 4th Quarter FY 1998. The current estimates are based on an initial functional design criteria which will be verified by an independent cost review. The following types of costs are associated with ETD: system definitive design, conceptual design, equipment, fabrication, assembly, installation/checkout, NEPA/Permits, Safety Analysis, Operational Readiness Review, and project management. Cost for follow-on technology phases are not included.

	<u>Item Cost</u>	<u>Total Cost</u>
Project Integration/Management .....		\$ 3,590
Criteria and Conceptual Design/Startup .....		3,602
Technology Development .....		14,837
Feed Preparation System .....	\$ 2,553	
Waste Processing System .....	8,306	
Final Forms/Inc/Other .....	3,978	
NEPA/CEQA/Permit/QA .....		<u>3,865</u>
Total Project Cost .....		\$ 25,894

a/ All costs for CENTRC-funded systems will be capitalized upon project completion.

b/ The scope, schedule and cost of the project are still being evaluated and are not fully reflected in this data sheet.

1. Title and Location of Project:	Expedited Technology Demonstration Project, Lawrence Livermore National Laboratory, Livermore, California	2a. Project No.: <u>a/</u> 2b. Operating Expense Funded
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10. Method of Performance

(a) Schedule of Planned Activities a/b/

<u>Activity</u>	<u>Start</u>	<u>Complete</u>
Criteria and Conceptual Design	3rd Qtr. FY 1993	3rd Qtr. FY 1994
System Design	4th Qtr. FY 1994	3rd Qtr. FY 1996
System Fabrication	4th Qtr. FY 1996	3rd Qtr. FY 1997
Operational Readiness (Initial Technology)	3rd Qtr. FY 1997	4th Qtr. FY 1998

(b) Management and Contracting

The project is managed for the Department by an onsite Project Manager, which reports directly to DOE-Oakland. The Project Manager's Office is responsible for the day-to-day management and decision making. Lawrence Livermore National Laboratory (LLNL) is responsible for executing the designs, fabrications, installation, and activities of the project. The project will be managed in accordance with DOE Order 4700.1 and other applicable DOE Orders.

System design will be performed by LLNL personnel. To the extent feasible, construction and procurement will be accomplished by fixed-price contracts and subcontracts awarded on the basis of competitive bidding. The majority of the work will be performed by LLNL forces.

a/ Note that schedule has changed. The operational readiness will occur in FY 1998.

b/ The scope, schedule and cost of the project are still being evaluated and are not fully reflected in this data sheet.

1. Title and Location of Project:	Expedited Technology Demonstration Project, Lawrence Livermore National Laboratory, Livermore, California	2a. Project No.: <u>a/</u> 2b. Operating Expense Funded
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11. Schedule of Project Funding and Other Related Funding Requirements

PHASE I:

Project Budget	<u>FY 1993</u>	<u>FY 1994</u>	<u>FY 1995</u>	<u>FY 1996</u>	<u>FY 1997</u>	<u>FY 1998</u>	<u>FY 1999</u>	<u>Total a/</u>
1. Operating Expenses	483	4,442	630	261	169	1,322	0	7,307
2. Capital Equipment	<u>0</u>	<u>3,428</u>	<u>6,600</u>	<u>4,307</u>	<u>3,574</u>	<u>678</u>	<u>0</u>	<u>18,587</u>
TOTAL	483	7,870	7,230	4,568	3,743	2,000	0	25,894

12. Narrative Explanation of Total Project Funding and Other Related Funding Requirements

- a. Total project funding
  - (1) Total facility costs
    - (a) Line Item - No narrative required.
    - (b) Plant engineering and design - No narrative required.
    - (c) Expense-funded equipment - Includes CENRTC-funded project costs.
    - (d) Inventories - No narrative required.
    - (e) Non-Federal Contribution - No narrative required.
  - (2) Other project costs
    - (a) R&D necessary to complete construction - Engineering development costs included in equipment costs, since it supports design activity.
    - (b) Conceptual design - Total direct costs for Conceptual Design Report and associated activities; does not include management and support activities.
    - (c) Decontamination & Decommissioning (D&D) - No narrative required.
    - (d) NEPA documentation costs - Contained in expense-funded project costs.
    - (e) Other project-related costs - No narrative required.
    - (f) Non-federal contribution - No narrative required.

a/ Costs are based on the Conceptual Design Report.

1. Title and Location of Project:	Expedited Technology Demonstration Project, Lawrence Livermore National Laboratory, Livermore, California	2a. Project No.: <u>a</u> / 2b. Operating Expense Funded
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12. Narrative Explanation of Total Project Funding and Other Related Funding Requirements (continued)

b. Related annual funding

- (1) Facility operating costs - Based on CDR estimate for operating staff and management and support staff.
- (2) Facility maintenance and repair costs - Included in (1).
- (3) Programmatic operating expenses directly related to the facility - Included in (1).
- (4) Capital equipment not related to construction but related to the programmatic effort in the facility - Included in (1).
- (5) GPP or other construction related to the programmatic effort in the facility - No narrative required.
- (6) Utility costs - Included in (1).
- (7) Other costs - No narrative required.

DEPARTMENT OF ENERGY  
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NATIONAL DEFENSE ASSET ACQUISITION  
(Tabular dollars in thousands. Narrative material in whole dollars.)

Office of Waste Management

1.	Title and Location of Project:	H-Tank Farm Storm Water System Upgrades	2a.	Project No.: 98-D-401
		Aiken, South Carolina	2b.	Plant and Construction

SIGNIFICANT CHANGES

- o No significant changes

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NATIONAL DEFENSE ASSET ACQUISITION  
 (Tabular dollars in thousands. Narrative material in whole dollars.)

Office of Waste Management

1. Title and Location of Project:	H-Tank Farm Storm Water System Upgrades Aiken, South Carolina	2a. Project No.: 98-D-401
		2b. Plant and Construction
3a. Date A-E Work Initiated, (Title I Design Start Scheduled):	2nd Quarter FY 1998	5. Previous Cost Estimate:
		Total Estimated Cost (TEC) -- None
3b. A-E Work (Titles I and II) Duration:	12 months	Total Project Cost (TPC) -- None
4a. Date Physical Construction Starts:	2nd Quarter FY 1999	6. Current Cost Estimate:
		TEC -- \$12,000
4b. Date Construction Ends:	4th Quarter FY 2000	TPC -- \$14,860

7. Financial Schedule (Federal Funds):

<u>Fiscal Year</u>	<u>Appropriation</u>	<u>Adjustments</u>	<u>Obligations</u>	<u>Costs</u>
1998	\$ 12,000		\$ 1,000	\$ 1,000
1999	0		8,000	8,000
2000	0		3,000	3,000



1. Title and Location of Project:	H-Tank Farm Storm Water System Upgrades Aiken, South Carolina	2a. Project No.: 98-D-401
		2b. Plant and Construction

8. Project Description, Justification and Scope

This project alleviates existing flooding problems surrounding Tanks 9-12H and the potential for unsafe tank top loading conditions created by flooding. The removal of storm water from this tank top area will increase safety margins and minimize rain water infiltration to waste tanks 9-12H.

The flooding conditions in the waste tank 9-12H area must be eliminated in order to prevent the spread of radioactive contamination violating South Carolina Hazardous Waste Management Regulations (SCHWRM) R.61-79.265.31. This flooding condition impacts the waste tanks' annulus pans and primary spaces; spreads radioactive contamination; creates unsafe working and operating conditions; violates ALARA (As Low As Reasonably Achievable) principals and creates additional waste volume. If the flooding situation is not corrected, the potential for injury to personnel and tank top overloading exists.

This project will evaluate the entire stormwater collection, retention, and outfall system related to this flooding condition surrounding tanks 9-12H and will provide a means to alleviate this condition. The FY 1998 funds will be used to develop a design Task Order Proposal Request (TOPR), award the design fixed price contract (FPC), and complete the detailed design work. In addition, a construction FPC specification will be prepared for a FY 1999 Construction Start.

The gross annual facility costs are estimated to be \$400,000 upon completion of the facility in FY 2000.

1. Title and Location of Project:	H-Tank Farm Storm Water System Upgrades Aiken, South Carolina	2a. Project No.: 98-D-401
		2b. Plant and Construction

9. Details of Cost Estimate

	<u>Item Cost</u>	<u>Total Cost</u>
a. Design and Management costs .....		\$ 2,300
1. Engineering design and inspection at approximately 28.1 percent of construction costs, Item c (Design, Drawings, and Specifications: \$4,373) .....	\$ 1,700	
2. Construction Management Costs .....	350	
3. Project management at 5.9 percent of construction costs (item c) .....	250	
b. Land and land rights .....	0	
c. Construction costs .....		7,200
1. Improvements to land .....	0	
2. Buildings .....	0	
3. Other structures .....	7,200	
4. Utilities .....	0	
5. Special facilities .....	0	
d. Standard equipment .....		0
e. Major computer items .....		0
f. Removal cost less salvage .....		500
g. Design and project liaison, testing, checkout and acceptance .....		<u>0</u>
h. Subtotal (a through g) .....		\$ 10,000
i. Contingencies at approximately 20 percent of above costs .....		<u>2,000</u>
j. Total line-item cost (section 11, a. 1. (a)) .....		\$ 12,000
k. LESS: Non-Federal contribution .....		<u>0</u>
l. Net Federal total estimated cost (TEC) .....		\$ 12,000

10. Method of Performance

Design will be performed by a fixed-price contractor for the Management and Operating (M&O) contractor at the Savannah River Site. Construction and procurement will be accomplished utilizing fixed-price subcontracts awarded on the basis of competitive bidding, where possible.

1. Title and Location of Project:	H-Tank Farm Storm Water System Upgrades Aiken, South Carolina	2a. Project No.: 98-D-401
		2b. Plant and Construction

11. Schedule of Project Funding and Other Related Funding Requirements

	<u>Previous Years</u>	<u>FY 1996</u>	<u>FY 1997</u>	<u>FY 1998</u>	<u>Outyears</u>	<u>TOTAL</u>
a. Total facility costs						
(1) Total facility costs						
(a) Line item (Section 9.j) . . . . .	\$ 0	\$ 0	\$ 0	\$ 1,000	\$ 11,000	\$ 12,000
(b) Plant engineering and design . . . . .	0	0	0	0	0	0
(c) Operating Expense Funded equipment . . . . .	0	0	0	0	0	0
(d) Inventories . . . . .	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
(e) Total fac. costs (Federal and Non-Federal) . . .	\$ 0	\$ 0	\$ 0	\$ 1,000	\$ 11,000	\$ 12,000
(2) Other project costs						
(a) R&D necessary to complete project . . . . .	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0
(b) Conceptual design costs . . . . .	0	0	360	0	0	360
(c) Decontamination & Decommissioning (D&D) . . . . .	0	0	0	0	0	0
(d) NEPA documentation costs . . . . .	0	0	0	0	0	0
(e) Other project-related costs . . . . .	<u>0</u>	<u>0</u>	<u>0</u>	<u>500</u>	<u>2,000</u>	<u>2,500</u>
(f) Total other project costs . . . . .	<u>\$ 0</u>	<u>\$ 0</u>	<u>\$ 360</u>	<u>\$ 500</u>	<u>\$ 2,000</u>	<u>\$ 2,860</u>
(g) Total project costs . . . . .	\$ 0	\$ 0	\$ 360	\$ 1,500	\$ 13,000	\$ 14,860
(h) LESS: Non-federal contribution . . . . .	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
(i) Net Federal total project cost (TPC) . . . . .	\$ 0	\$ 0	\$ 360	\$ 1,500	\$ 13,000	\$ 14,860
b. Related annual funding (estimated useful life of facility project--30 years)						
1. Facility operating costs . . . . .						\$ 200
2. Facility maintenance and repair costs . . . . .						100
3. Programmatic operating expenses directly related to the facility . . . . .						0
4. Capital equipment not related to construction but related to the programmatic effort in the facility . . . . .						100
5. GPP or other construction related to the programmatic effort in the facility . . . . .						0
6. Utility costs . . . . .						0
7. Other costs . . . . .						<u>0</u>
Total related annual funding . . . . .						\$ 400

1. Title and Location of Project:	H-Tank Farm Storm Water System Upgrades Aiken, South Carolina	2a. Project No.: 98-D-401
		2b. Plant and Construction

12. Narrative Explanation of Total Project Funding and Other Related Funding Requirements

- a. Total project funding
  - (1) Total facility costs
    - (a) Line-Item -Total cost of construction is \$12,000,000 these funds will be used for design, construction, and project management.
    - (b) Plant engineering and design - No narrative required.
    - © Expense-funded equipment - No narrative required.
    - (d) Inventories - No narrative required.
    - (e) Non-Federal Contribution - No narrative required.
  - (2) Other project costs
    - (a) R&D necessary to complete construction - No narrative required.
    - (b) Conceptual design - Will be completed at an approximate cost of \$360,000.
    - © Decontamination & Decommissioning (D&D) - No narrative required.
    - (d) NEPA documentation costs - No narrative required.
    - (e) Other project related costs - No narrative required.
    - (f) Non-Federal contribution - No narrative required.
    - (g) Other project related costs - \$500,000 in FY 1998 will be used to support final design, preliminary construction planning efforts and permitting. \$2,000,000 in outyears will be used to support construction and startup testing.

DEPARTMENT OF ENERGY  
FY 1998 CONGRESSIONAL BUDGET REQUEST  
(Changes from FY 1997 Congressional Budget Request are denoted with a vertical line in left margin)

NATIONAL DEFENSE ASSET ACQUISITION  
(Tabular dollars in thousands. Narrative material in whole dollars.)

Office of Waste Management

1. Title and Location of Project:	Tank Farm Restoration and Safe Operations, Richland, Washington	2a. Project No.: 97-D-402 2b. Construction Funded
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SIGNIFICANT CHANGES

- o No Significant Changes.

DEPARTMENT OF ENERGY  
FY 1998 CONGRESSIONAL BUDGET REQUEST  
(Changes from FY 1997 Congressional Budget Request are denoted with a vertical line in left margin)

NATIONAL DEFENSE ASSET ACQUISITION  
(Tabular dollars in thousands. Narrative material in whole dollars.)

Office of Waste Management

1. Title and Location of Project:	Tank Farm Restoration and Safe Operations, Richland, Washington	2a. Project No.: 97-D-402
		2b. Construction Funded
3a. Date A-E Work Initiated, (Title I Design Start Scheduled):	2nd Qtr. FY 1997 <sup>a/</sup>	5. Previous Cost Estimate:
		Total Estimated Cost (TEC) -- \$206,000
3b. A-E Work (Titles I & II) Duration:	94 months	Total Project Cost (TPC) -- \$273,000
4a. Date Physical Construction Starts:	3rd Qtr. FY 1998 <sup>a/</sup>	6. Current Cost Estimate:
		TEC -- \$206,000
4b. Date Construction Ends:	3rd Qtr. FY 2007 <sup>a/</sup>	TPC -- \$273,000

7. Financial schedule (Federal Funds)

<u>Fiscal Year</u>	<u>Appropriation</u>	<u>Adjustments</u>	<u>Obligations</u>	<u>Costs</u>
1997	\$ 7,584		\$ 7,584	\$ 6,232
1998	41,530		13,961	12,560
1999	51,795		9,749	10,798
2000	34,653		12,135	9,847
2001	18,168		36,782	34,086
2002	52,270		32,252	30,553
2003	0		36,301	37,358
2004	0		35,789	41,155
2005	0		21,447	23,411

<sup>a/</sup> Current schedule and cost information is based on approved Conceptual Design Report, WHC-SD-W314-CDR-001, Rev. 1, dated November 20, 1996.

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1. Title and Location of Project: Tank Farm Restoration and Safe Operations,  
Richland, Washington

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2a. Project No.: 97-D-402  
2b. Construction Funded

8. Project Description, Justification and Scope

- \* The Tank Farm Restoration and Safe Operations Major System Acquisition (MSA) will provide upgrades for selected tank farm instrumentation control, tank ventilation, waste transfer, and electrical systems in order to restore these systems to an acceptable design basis. The project focuses primarily on improvements
- \* needed to support waste disposal privatization and routine operations of existing double-shell tank (DST) farm facilities (i.e., "Manage Tank Waste") during the
- \* Tank Waste Remediation System (TWRS) mission, but also support initiatives related to single-shell tank (SST) stabilization. This project is integrated with other planned/ongoing upgrades, waste retrieval, and major maintenance activities to ensure that the combined upgrades are performed in a cost-effective manner and that they will adequately support the overall TWRS mission.

The Tank Farm Restoration and Safe Operations MSA will provide major upgrades to Hanford's existing Tank Farm facilities in the following areas.

Instrumentation - Existing primary tank monitoring instrumentation in the DST farms will be modified and upgraded for level, temperature, and vapor pressure measurement. The DST waste transfer system will be upgraded for routine verification and waste transfer verification. The leak detection system associated with the annulus, leak detection pit, and process/support pits in these tank farms will be upgraded. The master pump shutdown system and associated alarms will also be upgraded. All new instrumentation/control equipment will be capable of providing remote readout and/or alarm at selected manned facilities, resulting in a significant reduction in the amount of manual field data collection in the DST farms, thereby improving worker efficiency and reducing worker stay time in the radiation zones (implementing an as low as reasonably achievable {ALARA} principle). No new SST instrumentation is planned to be provided by this project.

Tank Ventilation - The project will replace the existing primary ventilation systems for Tank Farms 241-AN, -AP, and -AW with new, high-capacity exhaust filtration systems. A new exhaust stack, along with stack effluent monitoring and ventilation control equipment, will be included in these upgrades. New seal pots and associated condensate piping will be installed to support the collection of condensate from the new ventilation systems and return it to the primary tank system. The ventilation systems will be designed to facilitate future installation of additional effluent control equipment, if needed. The project also will provide a new annulus ventilation system for the 241-SY Tank Farm, and replacement ventilation systems for the 244-A and 244-S Double Contained Receiver Tank (DCRT) facilities. The new annulus and primary ventilation systems will be connected to existing underground ductwork. Existing filter trains replaced by this project will be removed and disposed.

The ventilation upgrades will improve worker safety and reduce the risk of radioactive and/or hazardous material releases to the environment by providing improved confinement and monitoring of tank emissions. New offgas treatment/filtration systems and effluent monitoring systems will be provided to ensure compliance with applicable Federal, State, and local emission standards.

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1. Title and Location of Project: Tank Farm Restoration and Safe Operations,  
Richland, Washington

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2a. Project No.: 97-D-402  
2b. Construction Funded

8. Project Description, Justification and Scope (continued)

Waste Transfer - New valve manifold assemblies will be provided in selected pits used for DST waste transfer operations. In addition, the project will install three new transfer routes (pipe-in-pipe configuration, equipped with appropriate leak detection and cathodic protection capabilities) in the "A Farm Complex" (200 East Area), and three existing transfer lines will be replaced with new lines. Existing pits used for DST waste transfer operations will have special protective coating applied to the walls, floor, and underside of cover blocks to provide a decontaminable surface and support compliance with regulatory requirements for secondary containment. New transfer systems will be fully compliant with Resource Conservation and Recovery Act (RCRA) requirements and with Washington State regulations governing hazardous waste handling.

Electrical Distribution - Existing electrical power supplies for the equipment supporting DST primary/annulus ventilation systems and the 244-A/244-S DCRT ventilation systems will be upgraded and/or replaced to provide backup power capabilities. In addition to providing improved reliability for ventilation systems, these upgrades will allow shutdown of the main switchgear to permit routine preventative maintenance to be performed. In addition, the project will upgrade SST electrical power systems to support Clean/Controlled/Stable operations. No new safety class power systems are planned as part of this project.

- \* The FY 1998 appropriation will be used to complete Title I design and initiate construction for the master pump shutdown system upgrades, as well as associated Safety Analysis development, permitting, and project management activities.

- \* The purpose of this project is to improve reliability of safety-related systems, reduce on-site health and safety hazards, reduce the risk of unmonitored releases to the environment, support waste disposal privatization and support DST "Manage Tank Waste" functions by restoring the selected Tank Farm facilities and systems. Recently completed assessments of the Tank Farms' instrumentation/control, ventilation, waste transfer, and electrical systems, which included physical inspections/condition assessments and engineering analyses to determine compliance with applicable requirements, have identified the need for extensive infrastructure restoration in order to meet the overall TWRS mission goals and support safe operation and maintenance activities.

Because of their age, many infrastructure systems and components have either exceeded their useful service lives and can be expected to fail in the near-term; have deteriorated beyond repair and must be replaced to ensure continued reliable operation; or operate outside current environmental, health, and safety regulations. Due to the age and obsolescence of the existing equipment, it is often difficult to obtain replacement parts for failed or degraded components. These conditions, coupled with the problems associated with performing maintenance work in contaminated areas, have resulted in high operation and maintenance costs for the Tank Farm facilities.



1. Title and Location of Project: Tank Farm Restoration and Safe Operations,  
Richland, Washington

2a. Project No.: 97-D-402  
2b. Construction Funded

9. Details of Cost Estimate

	<u>Item Cost</u>	<u>Total Cost</u>
a. Design and Management costs .....		\$ 67,618
1. Engineering design and inspection at approximately 46.9 percent of construction costs, Item c (Design, Drawings, and Specifications): .....	\$ 49,130	
2. Construction Management Costs .....	6,118	
3. Project management at 11.9 percent of construction costs (item c) .....	12,370	
b. Land and land rights .....		0
c. Construction costs .....		96,782
1. Improvements to land .....	0	
2. Buildings .....	0	
3. Other structures .....	0	
4. Utilities .....	1,870	
5. Special facilities equip/process systems .....	91,042	
6. Demolition .....	3,870	
d. Standard equipment .....		0
e. Major computer items .....		0
f. Removal cost less salvage .....		0
g. Design and project liaison, testing, checkout and acceptance .....		<u>0</u>
h. Subtotal .....		\$164,400
I. Contingencies at approximately 26 percent of above costs .....		<u>41,600</u>
j. Total line-item cost (section 12, a. 1. (a) .....		\$206,000
k. LESS: Non-Federal contribution .....		<u>0</u>
l. Net Federal total estimated cost (TEC) .....		\$206,000

1. Title and Location of Project: Tank Farm Restoration and Safe Operations,  
Richland, Washington

2a. Project No.: 97-D-402  
2b. Construction Funded

10. Method of Performance

The Project Hanford Management Contractor (PHMC) will be responsible for overall project management and integration services for the Tank Farm Restoration and Safe Operations project, as well as for coordination of permitting and safety analysis work in support of the project. Definitive design, inspection, and construction management activities will be performed by the contracted Engineer/Constructor (E/C) Contractor. Construction work in radiologically contaminated areas, utility tie-ins, and demolition work will also be performed by the E/C. To the extent feasible, construction in uncontaminated areas and procurement shall be accomplished by fixed-price contracts awarded on the basis of competitive bidding. Burial of contaminated materials, health physics technician support, and startup testing/readiness review support will be performed by the PHMC.

11. Schedule of Project Funding and Other Related Funding Requirements

	<u>Previous Years</u>	<u>FY 1997</u>	<u>FY 1998</u>	<u>FY 1999</u>	<u>Outyears</u>	<u>TOTAL</u>
a. Total facility costs						
(1) Total facility costs						
(a) Line item (Section 10) . . . . .	\$ 0	\$ 6,232	\$ 12,560	\$ 10,798	\$176,410	\$206,000
(b) Plant engineering and design . . . . .	0	0	0	0	0	0
(b) Operating Expense Funded equipment . . . . .	0	0	0	0	0	0
(c) Inventories . . . . .	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
Total facility costs (Federal and Non-Federal) . . . .	\$ 0	\$ 6,232	\$ 12,560	\$ 10,798	\$176,410	\$206,000
(2) Other project costs						
(a) R&D necessary to complete project . . . . .	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0
(b) Conceptual design costs . . . . .	11,815	2,335	0	0	1,513	15,663
(c) Decontamination & decommissioning (D&D) . . . . .	0	0	0	0	0	0
(d) NEPA documentation costs . . . . .	12	204	0	0	0	216
(e) Other project-related costs . . . . .	<u>10,547</u>	<u>1,177</u>	<u>2,251</u>	<u>2,251</u>	<u>34,895</u>	<u>51,121</u>
(f) Total other project costs a/ . . . . .	<u>\$22,374</u>	<u>\$ 3,716</u>	<u>\$ 2,251</u>	<u>\$ 2,251</u>	<u>\$ 36,408</u>	<u>\$ 67,000</u>
(g) Total project costs . . . . .	\$22,374	\$ 9,948	\$14,811	\$13,049	\$212,818	\$273,000
(h) LESS: Non-federal contribution . . . . .	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
(i) Net Federal total project cost (TPC) . . . . .	\$22,374	\$ 9,948	\$14,811	\$13,049	\$212,818	\$273,000

1. Title and Location of Project: Tank Farm Restoration and Safe Operations,  
Richland, Washington

2a. Project No.: 97-D-402  
2b. Construction Funded

11. Schedule of Project Funding and Other Related Funding Requirements (continued)

b. Related annual funding (estimated life of project--30 years)	
(1) Facility operating costs .....	\$ TBD
(2) Facility maintenance and repair costs .....	TBD
(3) Programmatic operating expenses directly related to the facility .....	0
(4) Capital equipment not related to construction but related to the programmatic effort in the facility .....	0
(5) GPP or other construction related to the programmatic effort in the facility .....	0
(6) Utility costs .....	TBD
(7) Other costs .....	<u>0</u>
Total related annual funding .....	\$ TBD

12. Narrative Explanation of Total Project Funding and Other Related Funding Requirements

- a. Total project funding
- (1) Total facility costs
- (a) Line-item--These funds will be used for engineering, design, and inspection (ED&I); procurement/construction safety analysis development; permitting and project management.
- (b) PE&D--None
- (c) Expense-funded equipment--None
- (d) Inventories--None
- (e) Non-Federal Contribution--None.
- (2) Other project costs
- (a) R&D necessary to complete construction--None.
- (b) Conceptual design--Including Systems Engineering (SE) development of functions, requirements, architectural alternatives, test planning, and interfaces; also includes pre-Title I design studies.
- (c) Decontamination & decommissioning (D&D)--None
- (d) NEPA documentation costs--National Environmental Policy Act (NEPA) costs are estimated based on development of an Environmental Assessment for instrumentation ventilation and electrical upgrades.
- (e) Other project-related costs--These costs include project definition, program integration, and support, design and construction support, preliminary safety documentation preparation, regulatory permitting plans, site characterization, and startup testing/readiness reviews.
- (f) Non-federal contribution--None.



DEPARTMENT OF ENERGY  
FY 1998 CONGRESSIONAL BUDGET REQUEST  
(Changes from FY 1997 Congressional Budget Request are denoted with a vertical line in left margin.)

NATIONAL DEFENSE ASSET ACQUISITION  
(Tabular dollars in thousands. Narrative material in whole dollars.)

Office of Waste Management

1. Title and Location of Project:	Waste Management Upgrades, Various Locations	2a. Project No.: 96-D-408 2b. Construction Funded
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SIGNIFICANT CHANGES

- o Reductions to total estimated cost (TEC) is due to lower than expected design and construction fixed price contracts costs.

DEPARTMENT OF ENERGY  
 FY 1998 CONGRESSIONAL BUDGET REQUEST  
 (Changes from FY 1997 Congressional Budget Request are denoted with a vertical line in left margin.)

NATIONAL DEFENSE ASSET ACQUISITION  
 (Tabular dollars in thousands. Narrative material in whole dollars.)

Office of Waste Management

1. Title and Location of Project:	Waste Management Upgrades, Various Locations	2a. Project No.: 96-D-408
		2b. Construction Funded
3a. Date A-E Work Initiated, (Title I Design Start Scheduled):	2nd Qtr. FY 1996	5. Previous Cost Estimate:
		Total Estimated Cost (TEC) -- \$29,570
3b. A-E Work (Titles I & II) Duration:	9 months	Total Project Cost (TPC) -- \$36,729
4a. Date Physical Construction Starts:	1st Qtr. FY 1997	6. Current Cost Estimate:
		TEC -- \$26,470
4b. Date Construction Ends:	3rd Qtr. FY 1999	TPC -- \$33,629
7. <u>Financial schedule (Federal Funds)</u>		

	<u>Fiscal Year</u>	<u>Appropriation</u>	<u>Adjustments</u>	<u>Obligations</u>	<u>Costs</u>
	1996	\$ 5,615	-3,100 <u>a/</u>	\$ 2,515	\$ 2,515
	1997	11,246		11,246	11,246
*	1998	12,709		8,200	8,200
*	1999	0		4,509	4,509

8. Project Description, Justification and Scope

This project line-item is the result of the FY 1996 Appropriation, in which Congress has provided greater flexibility to manage multiple projects of similar nature at various location. The subprojects will be addressed individually in the construction project data sheet, and must undergo the same review process as any other construction line item proposed in this budget. Since these changes occur on a real-time basis and cannot be anticipated, this consolidated line item approach will provide DOE the flexibility to react to significant technical, programmatic and regulatory changes that impact the individual subprojects, making the most effective use of the funds available.

a/ Reflects reduction of uncosted balances to meet requirements of the FY 1997 Appropriation. Lower design and construction costs due to fixed price subcontracting allow TEC to be reduced without impact.

1. Title and Location of Project:	Waste Management Upgrades, Various Locations	2a. Project No.: 96-D-408 2b. Construction Funded
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8. Project Description, Justification and Scope (continued)

a. Subproject #01 - Replace Industrial Waste Piping, Kansas City Plant

<u>TEC</u>	<u>PREV.</u>	<u>FY 1996</u>	<u>FY 1997</u>	<u>FY 1998</u>	<u>OUTYEAR</u>	<u>CONSTRUCTION START - COMPLETION DATE</u>
\$2,400	\$ 0	\$ 200	\$ 2,200	\$ 0	\$ 0	4th Qtr. FY 1997 3rd Qtr. FY 1998

This project will replace the overhead industrial waste piping system at the Kansas City Plant (KCP) including dilute acid, caustic, cyanide chrome, and industrial waste lines from the main manufacturing building and five other small buildings to the Industrial Waste Pretreatment Facility (IWPF). The project includes phased demolition and construction to replace the nine separate overhead industrial waste system pipe lines which together convey virtually all process wastes from the operating buildings to the IWPF. All of the pipe lines are located on an outdoor overhead pipe bridge. The new piping will be installed in the same location as the existing piping. Minor modification will be made to the existing bridge to strengthen the pipe anchor points to accommodate thermally induced loads. The total length of piping is approximately 6,700 feet.

\* In FY 1998 prior year carry-over funds will be used for project management activities and to complete construction.

b. Subproject #02 - T-Plant Secondary Containment and Leak Detection Upgrades, Richland

<u>TEC</u>	<u>PREV.</u>	<u>FY 1996</u>	<u>FY 1997</u>	<u>FY 1998</u>	<u>OUTYEAR</u>	<u>CONSTRUCTION START - COMPLETION DATE</u>
\$10,700	\$ 0	\$ 2,100	\$ 4,029	\$ 4,571	\$ 0	1st Qtr. FY 1997 - 3rd Qtr. FY 1999

\*

T Plant is the primary decontamination facility for the Hanford Site. The decontamination activities support Hanford Site Environmental Restoration mission and Waste Management programs. This project will modify T Plant facilities to comply with the State of Washington and Federal environmental regulations for secondary containment and leak detection.

This project will provide a functional on-line facility to support major decontamination activities as required by the Hanford Federal Facility Agreement and Consent Order (Tri-Party Agreement) milestone M-32-03, "Complete T Plant Tank Actions."

The upgrades provided by this project are installation of a liquid waste collection, containment, leak detection, and transfer system for handling decontamination solutions in the 2706-T and 2706-TA facility.

1. Title and Location of Project:	Waste Management Upgrades, Various Locations	2a. Project No.: 96-D-408 2b. Construction Funded
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8. Project Description, Justification and Scope (continued)

c. Subproject #03 - Tank Farm Services Upgrades, Savannah River

<u>TEC</u>	<u>PREV.</u>	<u>FY 1996</u>	<u>FY 1997</u>	<u>FY 1998</u>	<u>OUTYEAR</u>	<u>CONSTRUCTION START - COMPLETION DATE</u>
* \$13,370	\$ 0	\$ 215	\$ 5,017	\$ 8,138	\$ 0	4th Qtr. FY 1996 - 4th Qtr. FY 1999

The Tank Farm Services Upgrade project consists of improvements to three different areas of the Tank Farm. These improvements will include service piping upgrades in the H-Area Tank Farm (West Hill), Electrical upgrades in the F-Area Tank Farm, and a cooling systems upgrade in the H-Area Tank Farm (East Hill). The upgrades to the service piping are necessary to support the continued and expanding tank farm operations. The cost of repairing leaks in buried pipes has been approximately \$4 million over the past four years. Detecting and repairing the leaks is very difficult.

The electrical upgrades in F-Area will consist of the addition or replacement of automatic transfer switches (ATS) and cable which will correct the electrical low voltage situation in the F-Area Tank Farm. Low voltage situations are causing power interruptions in the F-Area Tank Farm. This project will provide and install a new automatic transfer switch in 241-64F compressor house. The project will replace the overloaded automatic transfer switch in Building 241-74F. The existing normal power supply and load cables in Building 241-74F will be replaced. The standby source and cables will not be changed.

The cooling system upgrade will provide adequate cooling to support In-Tank Precipitation (ITP) and Extended Sludge Processing (ESP), which will feed Saltstone and Defense Waste Processing Facility (DWPF). Due to changes in the site mission, the cooling requirements for the Tank Farm have changed. The new mission is to remove waste, which will generate heat from slurry pump operation and tank transfers. The process facilities will require lower tank temperatures. To provide adequate cooling, a heat exchanger and a new chromate cooling water pump will be added to the system. The existing cooling pumps will be upgraded.

The mechanical services in the H-Area Tank Farm need to be replaced due to damage to the service caused by age. These upgrades are required to support the tank farm operations. This project will replace buried service piping in H-Area with piping in trenches or on pipe racks and provide three new gang valve assemblies with double contained steam supply. The new gang valve assemblies with double contained pipe to Tanks 35 through 37 will reduce the possibilities of back flow in the steam supply lines from occurring again. The assemblies will give better environmental control and implement the ALARA philosophy. The existing lines will be capped and abandoned in place. The gang valve house will be abandoned. The existing gang valve house (GVH) and steam transfer line are not in compliance with DOE Order 5820.2A "Radioactive Waste management", and pose a threat to the environment and personnel.



1. Title and Location of Project:	Waste Management Upgrades, Various Locations	2a. Project No.: 96-D-408
		2b. Construction Funded

\* 8. Project Description, Justification and Scope (continued)

\*  
\* FY 1998 funds will be used to start and finish construction on the gang valve house scope and initiate the design on the cooling scope. The annual operating expenses for this facility are estimated to be \$300,000.  
\*

9. Details of Cost Estimate a/ b/

	<u>Item Cost</u>	<u>Total Cost</u>
a. Design and Management costs .....		\$ 7,759
1. Engineering design and inspection at approximately 29.9 percent of construction costs, Item c (Design, Drawings, and Specifications: .....	\$ 5,000	
2. Construction Management Costs .....	1,230	
3. Project management at 4.9 percent of construction costs (item c) .....	1,529	
b. Land and land rights .....		0
c. Construction costs .....		13,474
1. Improvements to land .....	20	
2. Buildings .....	7,677	
3. Other structures (includes demolition) .....	242	
4. Utilities .....	1,600	
5. Special facilities .....	3,935	
d. Standard equipment .....		0
e. Major computer items .....		0
f. Removal cost less salvage .....		0
g. Design and project liaison, testing, checkout and acceptance .....		<u>0</u>
h. Subtotal .....		\$ 21,233
I. Contingencies at approximately 25 percent of above costs .....		<u>5,237</u>
j. Total line item cost (section 12, a. 1. (a)) .....		\$ 26,470
k. LESS: Non-Federal contribution .....		<u>0</u>
l. Net Federal total estimated cost (TEC) .....		\$ 26,470

a/ Subproject 2 portion of this estimate is based on the preliminary definitive design estimate dated February 20, 1996, and the Engineering Estimate dated October 1995.

b/ Escalation rates were calculated from the February 1995 update of the economic escalation price change indices for DOE construction projects as published by the "Office of Infrastructure Acquisition, FM-50."

1. Title and Location of Project:	Waste Management Upgrades, Various Locations	2a. Project No.: 96-D-408
		2b. Construction Funded

10. Method of Performance

Design, inspection, procurement, and construction shall be performed under a negotiated contract with the offsite engineer-constructor contractor. The operating contractor will support the project by providing input to design revisions as well as overall project management through the duration of the project.

11. Schedule of Project Funding and Other Related Funding Requirements

	<u>Previous Years</u>	<u>FY 1996</u>	<u>FY 1997</u>	<u>FY 1998</u>	<u>FY 1999</u>	<u>TOTAL</u>
a. Total facility costs						
1. Total facility costs						
(a) Line item (Section 10) . . . . .	\$ 0	\$ 2,515	\$11,246	\$ 8,200	\$ 4,509	\$26,470
(b) Operating Expense Funded equipment . . . . .	0	0	0	0	0	0
(c) Inventories . . . . .	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
Total facility costs (Federal and Non-Federal) . . . .	\$ 0	\$ 2,515	\$11,246	\$ 8,200	\$ 4,509	\$26,470
2. Other project costs						
(a) R&D necessary to complete project . . . . .	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0
(b) Conceptual design costs . . . . .	1,666	274	0	0	0	1,940
(c) Decontamination & Decommissioning (D&D) . . . . .	0	0	0	0	0	0
(d) NEPA documentation costs . . . . .	5	0	0	0	0	5
(e) Other project-related costs . . . . .	<u>526</u>	<u>124</u>	<u>863</u>	<u>1,096</u>	<u>2,605</u>	<u>5,214</u>
(f) Total other project costs . . . . .	<u>\$ 2,197</u>	<u>\$ 398</u>	<u>\$ 863</u>	<u>\$ 1,096</u>	<u>\$ 2,605</u>	<u>7,159</u>
(g) Total project costs . . . . .	\$ 2,197	\$ 2,913	\$12,109	\$ 9,296	\$ 7,114	\$33,629
(h) Non-federal contribution . . . . .	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
(I) Net Federal total project cost (TPC) . . . . .	\$ 2,197	\$ 2,913	\$12,109	\$ 9,296	\$ 7,114	\$33,629

1. Title and Location of Project:	Waste Management Upgrades, Various Locations	2a. Project No.: 96-D-408
		2b. Construction Funded

11. Schedule of Project Funding and Other Related Funding Requirements (continued)

b. Related annual funding (estimated life of project-- 20-30 years for all subprojects)	
1. Facility operating costs .....	\$ 2,702
2. Facility maintenance and repair costs .....	1,859
3. Programmatic operating expenses directly related to the facility .....	3,426
4. Capital equipment not related to construction but related to the programmatic effort in the facility .....	400
5. GPP or other construction related to the programmatic effort in the facility .....	100
6. Utility costs .....	1,290
7. Other costs .....	<u>0</u>
Total related annual funding .....	\$ 9,777

12. Narrative Explanation of Total Project Funding and Other Related Funding Requirements

- a. Total project funding
  - (1) Total facility costs
    - (a) Line-Item - Total cost of construction is \$26,470,000; these funds will be used for design, procurement, construction, and project management.
    - (b) Plant engineering & design - No narrative required.
    - (c) Expense-funded equipment - No narrative required.
    - (d) Inventories - No narrative required.
    - (e) Non-Federal Contribution - No narrative required.
  - (2) Other project costs
    - (a) R&D necessary to complete construction - No narrative required.
    - (b) Conceptual design - Will be completed at an approximate cost of \$1,666,000.
    - (c) Decontamination & decommissioning (D&D) - No narrative required.
    - (d) NEPA documentation costs - National Environmental Policy Act (NEPA) activities and documentation are expected to cost approximately \$5,000 for Richland.
    - (e) Other project-related costs - Costs of approximately \$5,214,000 for various project support activities, including value engineering session, site evaluation, project and quality assurance plans, design and quality assurance reviews, inventories for startup, readiness reviews, and health physics technician and plant personnel report.
    - (f) Non-federal contribution - No narrative required.

1. Title and Location of Project:	Waste Management Upgrades, Various Locations	2a. Project No.: 96-D-408 2b. Construction Funded
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12. Narrative Explanation of Total Project Funding and Other Related Funding Requirements (cont'd)

b. Related annual funding

- (1) Facility operating costs - Costs of approximately \$2,702,000 for operations, maintenance, and utilities for the facilities provided by the Subprojects.
- (2) Facility maintenance and repair costs - \$1,859,000; assumes a share of the total maintenance outlay.
- (3) Programmatic operating expenses directly related to the facility - Includes T-Plant waste management, operational safety, facility operations, engineering procedures/drawings, waste assessments and rail car transfers; \$3,426,000.
- (4) Capital equipment not related to construction but related to the programmatic effort in the facility - Costs of \$400,000 for replacement parts.
- (5) GPP or other construction related to the programmatic effort in the facility - Costs of \$100,000.
- (6) Utility costs - \$1,290,000; includes the project plant assessments (water, steam, laundry, etc.) For FY 2001.
- (7) Other costs - No narrative required.

DEPARTMENT OF ENERGY  
FY 1998 CONGRESSIONAL BUDGET REQUEST  
(Changes from FY 1997 Congressional Budget Request are denoted with a vertical line in left margin.)

NATIONAL DEFENSE ASSET ACQUISITION  
(Tabular dollars in thousands. Narrative material in whole dollars.)

Office of Waste Management

1. Title and Location of Project:	Install Permanent Electrical Service for the WIPP Waste Isolation Pilot Plant, Carlsbad, New Mexico	2a. Project No.: 95-D-402
		2b. Construction Funded

SIGNIFICANT CHANGES

- o No significant changes.

DEPARTMENT OF ENERGY  
 FY 1998 CORPORATE BUDGET REQUEST  
 (Changes from FY 1997 Congressional Budget Request are denoted with a vertical line in left margin.)

NATIONAL DEFENSE ASSET ACQUISITION  
 (Tabular dollars in thousands. Narrative material in whole dollars.)

Office of Waste Management

1. Title and Location of Project:	Install Permanent Electrical Service for the WIPP Waste Isolation Pilot Plant, Carlsbad, New Mexico	2a. Project No.: 95-D-402
3a. Date A-E Work Initiated, (Title I Design Start Scheduled):	2nd Qtr. FY 1995	2b. Construction Funded
3b. A-E Work (Titles I & II) Duration:	9 months	5. Previous Cost Estimate: Total Estimated Cost (TEC) -- \$5,942 Total Project Cost (TPC) -- \$6,209
4a. Date Physical Construction Starts:	1st Qtr. 1997	6. Current Cost Estimate: TEC -- \$ 5,942 <u>a/</u> TPC -- \$ 6,196
4b. Date Construction Ends:	2nd Qtr. FY 1998	
7. <u>Financial schedule (Federal Funds):</u>		

<u>Fiscal Year</u>	<u>Appropriation</u>	<u>Adjustments</u>	<u>Obligations</u>	<u>Costs</u>
1995	\$ 700		\$ 700	\$ 0
1996	4,314		4,314	3,398
1997	752		752	1,575
1998	176		176	969

a/ Cost estimate based on revised baseline estimate from Southwest Public Services (SPS).

1. Title and Location of Project:	Install Permanent Electrical Service for the WIPP Waste Isolation Pilot Plant, Carlsbad, New Mexico	2a. Project No.: 95-D-402
		2b. Construction Funded

#### 8. Project Description, Justification and Scope

The scope of the project changed due to a project upgrade from the Southwest Public Services (SPS) utility. This new upgrade will provide a technically superior 115 kilovolt (kV) electrical transmission line (south line) and substation as opposed to the previous project (north line) which would provide a 69 kV electrical system.

Project Elements: In addition to the continuance of operating the existing transmission line, this project includes the following main elements.

- a. Approximately 19.0 miles of new wood-pole H-frame transmission line routed from Southwest Public Services (SPS) to OCHOA Sand Dunes substations to complete the transmission line loop to WIPP. As is the case with the existing line, the new line will be owned and operated by SPS.
- b. A new 115/13.8 kV substation whose main elements include two Load Tap Change (LTC) power transformers each supplied with grounding resistors; 115 kV sulfur hexafluoride power circuit breakers; disconnect switches and buswork including 115 kV level insulators and steel support structures; protective relaying, instrumentation, control and auxiliary power equipment; 13.8 kV vacuum circuit breaker switchgear; a control building; and a perimeter security fence.
- c. The addition of a 115 kV breaker terminal position and modification of protective relaying at SPS's Whitten Interchange.
- d. Dual 13.8 kV cable circuits installed in underground utility corridor between the new SPS WIPP Substation and the existing 13.8 kV Plant Substation switchgear. Additionally, grounding, instrumentation, control and alarm cables between both substations will be installed. All such cabling will be owned by the Department of Energy and operated and maintained by the Management and Operations contractor.
- e. Demolition of the existing 69/13.8 kV construction phase utility substation. Demolition will be under SPS responsibility.
- f. Either access to the 13.8 kV vacuum circuit breakers equipment by authorized WIPP personnel or access to load interrupter switches and control of 13.8kV vacuum circuit breakers.
- g. Installation of equipment to remotely monitor SPS's utility meter.

SPS's existing substation for the WIPP is supplied by one transmission line (single-fed). This substation was originally intended to be a temporary facility to support the Site Preliminary Design and Validation (SPDV) and construction phase of the WIPP project. Its replacement is necessary to meet WIPP's future power requirements such as providing sufficient electrical power, increasing electrical power reliability, improving quality of electrical power, and enhancing electrical safety. Attainment of these goals will assure the continuation of commercial electrical power should a single component fail.

1. Title and Location of Project:	Install Permanent Electrical Service for the WIPP Waste Isolation Pilot Plant, Carlsbad, New Mexico	2a. Project No.: 95-D-402
		2b. Construction Funded

8. Project Description, Justification and Scope (continued)

Even though WIPP's aging temporary substation is considered adequate during WIPP's non-operational phases, it will prove inadequate during the operation phase, when higher loading is encountered and increased reliability is expected. For increased levels of reliability the existing temporary substation needs to be replaced and an additional transmission line installed. The original equipment was not designed for, nor does it supply the same level of reliability, associated operational-flexibility, or redundancy offered by the design for the permanent substation and new transmission line.

A reliable, redundant and flexible system would prevent outages at the WIPP due to a single-event, forced or maintenance-related outage. A single event due to equipment failure on either the existing transmission line or substation would shut the WIPP site down, the underground facilities would be evacuated, and only the equipment required to monitor the safe disposal of the waste would remain operable on site. A single event forced outage could be either momentary or for a long duration. According to SPS, sustained outages of 48 hours or more are possible for failure and emergency replacement of a "standby" substation transformer. Replacement of the transformer with other than an emergency replacement could take much longer. Likewise, loss of the transmission line could require or even exceed five days for repairs depending on the extent of damage.

Without completion of this project, controlled maintenance or construction outages for SPS utility equipment would also shut the WIPP site down. Periodically transmission lines and various equipment on the SPS system will need maintenance that may require such an outage. While less disruptive, even planned outages will have the same effects as an equipment failure.

Voltage sags and surges are a relatively common occurrence on utility power lines. The magnitude and effects of these sags and surges are normally greater on a single feed (radial) transmission system. A multiple feed (looped) transmission system will tend to absorb the sags and surges into the system and reduce the effect on the customer. Mine Safety and Health Administration (MSHA) requirements for under-voltage protection underground causes voltage sage to disconnect WIPP's underground electrical system. These MSHA requirements contribute to an increased likelihood for unnecessary loss of power to WIPP's underground due to voltage sags.



1. Title and Location of Project:	Install Permanent Electrical Service for the WIPP Waste Isolation Pilot Plant, Carlsbad, New Mexico	2a. Project No.: 95-D-402
		2b. Construction Funded

8. Project Description, Justification and Scope (continued)

Installation of an additional transmission line and a ring bus will help to alleviate the problem of these voltage excursions. With both lines connected, the additional line will act in such a manner to smooth out or damper either a voltage surge or a sag.

In its present configuration, the existing SPS utility substation requires 69,000 volt overhead transmission lines to cross over WIPP's perimeter security fence and over an area with both pedestrian and equipment traffic. This presents a potential safety hazard. While administrative controls in-place prevent certain equipment, such as WIPP's crane, from operating under the incoming transmission line, occasionally, heavy equipment is required to be used near or even under the transmission line.

Upon completion of this project the overhead transmission lines will be removed thereby eliminating an administratively controlled safety hazard.

1. Title and Location of Project:	Install Permanent Electrical Service for the WIPP Waste Isolation Pilot Plant, Carlsbad, New Mexico	2a. Project No.: 95-D-402
		2b. Construction Funded

9. Details of Cost Estimate

	<u>Item Cost</u>	<u>Total Cost</u>
a. Design and Management costs .....		\$ 895
1. Engineering design and inspection at approximately 18 percent of construction costs, Item c .....	\$ 735	
2. Construction Management Costs .....	87	
3. Project management at 2 percent of construction costs (item c) .....	73	
b. Land and land rights .....		36
c. Construction costs .....		4,125
1. Improvements to land .....	0	
2. Buildings .....	0	
3. Other structures .....	0	
4. Utilities .....	4,125	
5. Special facilities .....	0	
d. Standard equipment .....		0
e. Major computer items .....		0
f. Removal cost less salvage .....		(97)
g. Design and project liaison, testing, checkout and acceptance .....		<u>0</u>
Subtotal .....		\$ 4,959
h. Contingencies at approximately 18 percent of above costs .....		906
New Mexico Gross Tax at 6.1 percent .....		<u>77</u>
i. Total line item cost (section 12, a. 1. (a)) .....		\$ 5,942
j. Non-Federal contribution .....		<u>0</u>
k. Net Federal total estimated cost (TEC) <u>b/</u> .....		\$ 5,942

a/ Contingency at 15% due to uncertainty in SPS supplied figures, final transmission line routing, and fluctuation in cost of raw materials.

b/ Cost reflects change due to escalation, new baseline costs from SPS, and removal of the M&O contractor fee.

1. Title and Location of Project:	Install Permanent Electrical Service for the WIPP Waste Isolation Pilot Plant, Carlsbad, New Mexico	2a. Project No.: 95-D-402
		2b. Construction Funded

10. Method of Performance

The Management and Operating Contractor (MOC) will prepare conceptual design, design criteria, review and furnish comments to the DOE on all Title I,II and III engineering documents prepared by Southwest Public Service (SPS). SPS will provide the construction management for the project. During construction, utility tie-in to existing facilities and performance of final acceptance testing will be performed by SPS personnel.

SPS will provide the Title I and II design engineering. SPS will provide Title III inspection for this project which includes providing oversight surveillance and reporting as outlined in the Project Execution Plan. MOC will be used on an as-needed basis for evaluation and approval for the critical equipment installation and startup of Title III. Engineering is to include studies, preparation of design, drawings, specifications, cost estimates, and contractor support.

SPS will provide all construction, procurement, erection, startup and testing of the facilities proposed by this conceptual design. Oversight surveillance, and technical evaluation of specified equipment, installation, startup and testing procedures will be provided by the MOC and approved by the DOE.

1. Title and Location of Project:	Install Permanent Electrical Service for the WIPP Waste Isolation Pilot Plant, Carlsbad, New Mexico	2a. Project No.: 95-D-402
		2b. Construction Funded

11. Schedule of Project Funding and Other Related Funding Requirements

	<u>Previous Years</u>	<u>FY 1995</u>	<u>FY 1996</u>	<u>FY 1997</u>	<u>FY 1998</u>	<u>TOTAL</u>
a. Total facility costs						
(1) Total facility costs						
(a) Line item (Section 10) . . . . .	\$ 0	\$ 0	\$ 3,398	\$ 1,575	\$ 969	\$ 5,942
(b) Operating Expense Funded equipment . . . . .	0	0	0	0	0	0
(c) Inventories . . . . .	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
Total facility costs (Federal and Non-Federal) . . . .	\$ 0	\$ 0	\$ 3,398	\$ 1,575	\$ 969	\$ 5,942
(2) Other project costs						
(a) R&D necessary to complete project . . . . .	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0
(b) Conceptual design costs . . . . .	93	0	0	0	0	93
(c) Decontamination & decommissioning (D&D) . . . . .	0	0	0	0	0	0
(d) NEPA documentation costs . . . . .	0	0	0	0	0	0
(e) Other project-related costs . . . . .	<u>\$ 24</u>	<u>\$ 115</u>	<u>\$ 2</u>	<u>\$ 9</u>	<u>\$ 11</u>	<u>\$ 161</u>
Total other project costs . . . . .	<u>\$ 117</u>	<u>\$ 115</u>	<u>\$ 2</u>	<u>\$ 9</u>	<u>\$ 11</u>	<u>\$ 254</u>
Total project costs . . . . .	\$ 117	\$ 115	\$ 3,400	\$ 1,584	\$ 980	\$ 6,196
(f) Non-federal contribution . . . . .	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
(g) Net Federal total project cost (TPC) . . . . .	\$ 117	\$ 115	\$ 3,400	\$ 1,584	\$ 980	\$ 6,196
b. Related annual funding (estimated life of project--25 years)						
(1) Facility operating costs . . . . .						\$ 1
(2) Facility maintenance and repair costs . . . . .						6
(3) Programmatic operating expenses directly related to the facility . . . . .						0
(4) Capital equipment not related to construction but related to the programmatic effort in the facility . . . . .						0
(5) GPP or other construction related to the programmatic effort in the facility . . . . .						0
(6) Utility costs . . . . .						0
(7) Other costs . . . . .						<u>0</u>
Total related annual funding . . . . .						\$ 7

1. Title and Location of Project:	Install Permanent Electrical Service for the WIPP Waste Isolation Pilot Plant, Carlsbad, New Mexico	2a. Project No.: 95-D-402
		2b. Construction Funded

12. Narrative Explanation of Total Project Funding and Other Related Funding Requirements

- a. Total project funding
  - (1) Total facility costs
    - (a) Line item--The total estimated cost is \$5,942,000 which includes all design and construction.
    - (b) PE&D--None.
    - (c) Expense-funded equipment--None.
    - (d) Inventories--None.
    - (e) Non-Federal contribution--None.
  - (2) Other project costs
    - (a) R&D necessary to complete construction--None.
    - (b) Conceptual design--Conceptual design including the Design Criteria will be completed at a cost of \$93,800.
    - (c) Decontamination & decommissioning (D&D)--None.
    - (d) NEPA documentation costs--None.
    - (e) Other project related costs--\$160,600: Other costs include items needed to complete construction.
    - (f) Non-Federal contribution--None.
- b. Related annual funding
  - (1) Facility operating costs--\$1,000 annually.
  - (2) Facility maintenance and repair costs--\$6,000 annually.
  - (3) Programmatic operating expenses directly related to the facility--None.
  - (4) Capital equipment not related to construction but related to the programmatic effort in the facility--None.
  - (5) GPP or other construction related to programmatic effort--None.
  - (6) Utility costs--None.
  - (7) Other costs--None.

DEPARTMENT OF ENERGY  
FY 1998 CONGRESSIONAL BUDGET REQUEST  
(Changes from FY 1997 Congressional Budget Request are denoted with a vertical line in left margin.)

NATIONAL DEFENSE ASSET ACQUISITION  
(Tabular dollars in thousands. Narrative material in whole dollars.)

Office of Waste Management

1. Title and Location of Project:	Industrial Landfill V and Construction/Demolition Landfill VII, Phase II, Oak Ridge Y-12 Plant, Oak Ridge, Tennessee	2a. Project No.: 95-D-405
		2b. Plant and Construction

SIGNIFICANT CHANGES

- o No Significant Changes.

DEPARTMENT OF ENERGY  
 FY 1998 CONGRESSIONAL BUDGET REQUEST  
 (Changes from FY 1997 Congressional Budget Request are denoted with a vertical line in left margin.)

NATIONAL DEFENSE ASSET ACQUISITION  
 (Tabular dollars in thousands. Narrative material in whole dollars.)

Office of Waste Management

1. Title and Location of Project:	Industrial Landfill V and Construction/Demolition Landfill VII, Phase II, Oak Ridge Y-12 Plant, Oak Ridge, Tennessee	2a. Project No.: 95-D-405
3a. Date A-E Work Initiated, (Title I Design Start Scheduled):	1st Qtr. FY 1995	2b. Plant and Construction
3b. A-E Work (Titles I & II) Duration:	9 months	5. Previous Cost Estimate:
4a. Date Physical Construction Starts:	3rd Qtr. 1996	Total Estimated Cost (TEC) -- \$9,600
4b. Date Construction Ends:	4th Qtr. FY 1998	Total Project Cost (TPC) -- \$9,850
		6. Current Cost Estimate:
		TEC -- \$ 9,600
		TPC -- \$10,606

7. Financial schedule (Federal Funds):

<u>Fiscal Year</u>	<u>Appropriation</u>	<u>Adjustments</u>	<u>Obligations</u>	<u>Costs</u>
1995	\$ 1,000		\$ 1,000	\$ 526
1996	4,600		4,600	2,107
1997	200		200	482
1998	3,800		3,800	2,884
1999	0		0	3,601

1. Title and Location of Project:	Industrial Landfill V and Construction/Demolition Landfill VII, Phase II, Oak Ridge Y-12 Plant, Oak Ridge, Tennessee	2a. Project No.: 95-D-405
		2b. Plant and Construction

8. Project Description, Justification and Scope

This project will provide the engineering design, permitting, and construction for the development of Phases II and III of industrial landfill V (ILF-V) and site enhancements to the construction/demolition landfill VII (C/DL-VII). Both of these landfills are located within the boundaries of the Department of Energy's (DOE's) Oak Ridge Reservation located in Oak Ridge, Tennessee. The initial phases of the landfills and all landfill support facilities were previously constructed as part of the Steam Plant Ash Disposal (SPAD) project (90-D-125).

The phased development of ILF-V and the enhancements to the C/DL-VII are required to meet the future industrial waste disposal requirements of DOE Oak Ridge Operations and to comply with the Resource Conservation and Recovery Act (RCRA), Subtitle D requirements that have been promulgated into the Tennessee Department of Environment and Conservation solid waste rules. The waste to be disposed at these sites is industrial waste or construction/demolition debris.

Solid waste disposal activities for DOE's Oak Ridge facilities must comply with existing Federal and State regulations. This project will provide disposal space for nonhazardous, solid waste generated from the operation of DOE facilities in Oak Ridge. The development of Areas II and III of Industrial Landfill-V (ILF-V) and the proposed improvements to Construction/Demolition Landfill-VII (C/DL-VII) are required to meet the solid waste disposal requirements of the DOE's Oak Ridge Reservation through the year 2010. The timely development of Area II of ILF-V is mandatory for uninterrupted operations of the Y-12 and K-25 Plants as well as that of the Oak Ridge National Laboratory (ORNL). Based upon current projections of waste generation, Area II must be operational by late fall of 1996 to prevent disruption of operations at all of the Oak Ridge facilities.

The generation of solid industrial wastes at Oak Ridge will continue as long as the plants operate. Additionally, refuse generation will continue through the remedial action and decommissioning and decontamination activities. Land-based disposal remains the best approach to solid waste management for the near future. This project has been planned with the most technically and economically acceptable waste management practices in mind. These technologies will meet the current and anticipated regulatory requirements. As with many projects that are borne out of environmental compliance issues, a significant area of uncertainty is future environmental regulations. The EPA has recently promulgated regulations that present a major impact on the design and cost of operation of sanitary landfills. The objective of this project is to provide a landfill that complies with the new federal regulations and the applicable state regulations and minimizes the costs of implementation.



1. Title and Location of Project:	Industrial Landfill V and Construction/Demolition Landfill VII, Phase II, Oak Ridge Y-12 Plant, Oak Ridge, Tennessee	2a. Project No.: 95-D-405
		2b. Plant and Construction

8. Project Description, Justification and Scope (continued)

The project scope for ILF-V includes the development of Areas II and III, which encompass approximately five acres each. Area II has an estimated volume of approximately 225,000 cubic yards with a projected life of approximately 4.3 years, and Area III has an estimated volume of approximately 470,000 cubic yards and a projected life of 9 years. Based upon the promulgation of EPA Subtitle D requirements into the Tennessee Department of Environment and Conservation (TDEC) solid waste rules, composite liners for the bottom of the landfill will be required for the Areas II and III of ILF-V. Leachate collection and gas migration control systems will be provided. The design will include provisions to facilitate closure of landfill areas as they reach capacity; however, the costs of these closures will be funded at a later date and therefore are not included in the cost estimate for this project.

The project scope for C/DL-VII provides "capital" improvements to the site, including construction of a second sedimentation pond, completion of the landfill perimeter road, and clearing, grubbing, minimal grading, and revegetating the remainder of the site.

\* The FY 1998 funds will provide for development of Area III of Landfill V, and will also continue construction management and project management activities.  
\*

1. Title and Location of Project:	Industrial Landfill V and Construction/Demolition Landfill VII, Phase II, Oak Ridge Y-12 Plant, Oak Ridge, Tennessee	2a. Project No.: 95-D-405
		2b. Plant and Construction

9. Details of Cost Estimate

	<u>Item Cost</u>	<u>Total Cost</u>
a. Design and Management costs .....		\$ 2,814
1. Engineering design and inspection at approximately 19.9 percent of construction costs, Item c (Design, Drawings, and Specifications: \$ 105,000) .....	\$ 1,046	
2. Construction Management Costs .....	1,168	
3. Project management at 11.5 percent of construction costs (item c) .....	600	
b. Land and land rights .....		0
c. Construction costs .....		5,218
1. Improvements to land .....	5,218	
2. Buildings .....	0	
3. Other structures .....	0	
4. Utilities .....	0	
5. Special facilities .....	0	
d. Standard equipment .....		0
e. Major computer items .....		0
f. Removal cost less salvage .....		0
g. Design and project liaison, testing, checkout and acceptance .....		500
h. Subtotal .....		\$ 8,532
i. Contingencies at approximately 13 percent of above costs .....		1,068
j. Total line-item cost (section 12, a. 1. (a) .....		\$ 9,600
k. LESS: Non-Federal contribution .....		0
l. Net Federal total estimated cost (TEC) .....		\$ 9,600

a/ The cost estimate is based on the latest approved in-depth review dated March 1996. The DOE Headquarters Economic Escalation Indices for Construction Projects were used as appropriate over the project cycle.

1. Title and Location of Project:	Industrial Landfill V and Construction/Demolition Landfill VII, Phase II, Oak Ridge Y-12 Plant, Oak Ridge, Tennessee	2a. Project No.: 95-D-405
		2b. Plant and Construction

10. Method of performance

DOE-ORO will provide overall project management.

The facilities manager will provide project specific design criteria, construction support services (including design and project liaison, project management and construction support), and Title III field engineering services. The facilities manager will also develop Area II of Landfill V. To the extent feasible, engineering will be performed under a negotiated architect-engineer contract. The onsite construction manager will award and administer all construction contracts. Construction work will be accomplished by fixed-price subcontract(s) awarded on the basis of competitive bids.

11. Schedule of Project Funding and Other Related Funding Requirements

	<u>Previous Years</u>	<u>FY 1996</u>	<u>FY 1997</u>	<u>FY 1998</u>	<u>Outyears</u>	<u>TOTAL</u>
a. Total facility costs						
1. Total facility costs						
(a) Line item (Section 10) . . . . .	\$ 526	\$ 2,107	\$ 482	\$ 2,884	\$ 3,601	\$ 9,600
(b) Operating Expense Funded equipment . . . . .	0	0	0	0	0	0
(c) Inventories . . . . .	0	0	0	0	0	0
Total facility costs (Federal and Non-Federal) . . . . .	\$ 526	\$ 2,107	\$ 482	\$ 2,884	\$ 3,601	\$ 9,600
2. Other project costs						
(a) R&D necessary to complete project . . . . .	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0
(b) Conceptual design costs . . . . .	118	0	0	0	0	118
(c) Decontamination & Decommissioning (D&D) . . . . .	0	0	0	0	0	0
(d) NEPA documentation costs . . . . .	0	0	0	0	0	0
(e) Other project-related costs . . . . .	163	145	150	180	250	888
(f) Total other project costs . . . . .	\$ 281	\$ 145	\$ 150	\$ 180	\$ 250	\$ 1,006
(g) Total project costs . . . . .	\$ 807	\$ 2,252	\$ 632	\$ 3,064	\$ 3,851	\$ 10,606
(h) LESS: Non-federal contribution . . . . .	0	0	0	0	0	0
(i) Net Federal total project cost (TPC) . . . . .	\$ 807	\$ 2,252	\$ 632	\$ 3,064	\$ 3,851	\$ 10,606

1. Title and Location of Project:	Industrial Landfill V and Construction/Demolition Landfill VII, Phase II, Oak Ridge Y-12 Plant, Oak Ridge, Tennessee	2a. Project No.: 95-D-405
		2b. Plant and Construction

11. Schedule of Project Funding and Other Related Funding Requirements (continued)

b. Related annual funding (estimated life of project--13 years) <u>a/</u>	
(1) Facility operating costs . . . . .	\$ 3,000
(2) Facility maintenance and repair costs . . . . .	300
(3) Programmatic operating expenses directly related to the facility . . . . .	0
(4) Capital equipment not related to construction but related to the programmatic effort in the facility . . . . .	250
(5) GPP or other construction related to the programmatic effort in the facility . . . . .	0
(6) Utility costs . . . . .	25
(7) Other costs . . . . .	<u>0</u>
Total related annual funding . . . . .	\$ 3,575

a/ Annual funding estimates are preliminary and generally based on past operating experience of a similar facility.

1. Title and Location of Project:	Industrial Landfill V and Construction/Demolition Landfill VII, Phase II, Oak Ridge Y-12 Plant, Oak Ridge, Tennessee	2a. Project No.: 95-D-405
		2b. Plant and Construction

12. Narrative Explanation of Total Project Funding and Other Related Funding Requirements

a. Total project funding

(1) Total facility costs

- (a) Line item - Construction line item costs for the engineering, design, and construction are estimated to be \$9,600,000.
- (b) Plant engineering and design - No narrative required.
- (c) Expense funded equipment - No narrative required.
- (d) Inventories - No narrative required.
- (e) Non-Federal contribution - No narrative required.

(2) Other project costs

- (a) R&D necessary to complete construction - No narrative required.
- (b) Conceptual design - The conceptual design was completed in April 1993 at a cost of \$118,000.
- (c) Decontamination & Decommissioning (D&D) - No narrative required.
- (d) NEPA documentation costs - No NEPA documentation costs are associated with this project. An Environmental Assessment (EA) was prepared at part of the SPAD project and a Finding of No Significant Impact (FONSI) was issued covering the entire landfill development site.
- (e) Other project related costs - Other project related costs include preparation of project-specific design criteria and facility engineer support.
- (f) Non-Federal contribution - No narrative required.

1. Title and Location of Project:	Industrial Landfill V and Construction/Demolition Landfill VII, Phase II, Oak Ridge Y-12 Plant, Oak Ridge, Tennessee	2a. Project No.: 95-D-405
		2b. Plant and Construction

12. Narrative Explanation of Total Project Funding and Other Related Funding Requirements (continued)

b. Related annual funding

- (1) Facility operating costs - Include materials and labor to staff and operate ILF-V (including leachate collection system), leachate holding tank facility, C/DL-VII, and the landfill facilities building. The scope of this project does not replace any other facility, but adds additional capacity to existing facilities.
- (2) Facility maintenance and repair costs - Include non-construction maintenance effort and repair including maintenance of landfill facilities building, landfill equipment, leachate collection system, leachate holding tank facility, sedimentation ponds, perimeter roads, and surrounding area. Stormwater and erosion control are areas that require extensive on-going maintenance.
- (3) Programmatic operating expenses directly related to the facility - No narrative required.
- (4) Capital equipment not related to construction but related to the programmatic effort in the facility - Capital equipment needs not related to construction but related to the programmatic effort include periodic replacement of landfill operations equipment including motorized bulldozer/compactor to perform compaction and cover application, motorized scraper for providing and spreading cover material, motorized in-loader for use as back-up to compactor. Other support vehicles requiring replacement include grader, dump trucks, backhoe, vibratory roller and bulldozer.
- (5) GPP or other construction related to programmatic effort - No narrative required.
- (6) Utility costs - Annual utility costs include power, potable water, and sanitary water.
- (7) Other costs - No narrative required.

DEPARTMENT OF ENERGY  
FY 1998 CONGRESSIONAL BUDGET REQUEST  
(Changes from FY 1997 Congressional Budget Request are denoted with a vertical line in left margin.)

NATIONAL DEFENSE ASSET ACQUISITION  
(Tabular dollars in thousands. Narrative material in whole dollars.)

Office of Waste Management

1. Title and Location of Project:	219-S Secondary Containment Upgrade, Richland, Washington	2a. Project No.: 95-D-407
		2b. Construction Funded

Significant Changes

The Total Estimated Cost and Total Project Cost for the project increased significantly due to additional construction costs associated with contamination and radiological conditions. The CDR estimate assumed that after the stainless steel liners were installed, masks would no longer be needed by construction workers. Due to the presence of alpha contamination, masks will be required at all times and bottled fresh air will be required for all welding, cutting, or grinding activities. The labor costs have increased substantially due to the radiological conditions in the vault cells.

DEPARTMENT OF ENERGY  
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 (Changes from FY 1997 Congressional Budget Request are denoted with a vertical line in left margin.)

NATIONAL DEFENSE ASSET ACQUISITION  
 (Tabular dollars in thousands. Narrative material in whole dollars.)

Office of Waste Management

1. Title and Location of Project:	219-S Secondary Containment Upgrade, Richland, Washington	2a. Project No.: 95-D-407
		2b. Construction Funded
3a. Date A-E Work Initiated, (Title I Design Start Scheduled):	2nd Qtr. FY 1995	5. Previous Cost Estimate:
		Total Estimated Cost (TEC) -- \$2,600
3b. A-E Work (Titles I & II) Duration:	9 months	Total Project Cost (TPC) -- \$3,300
4a. Date Physical Construction Starts:	1st Qtr. FY 1996	6. Current Cost Estimate:
		TEC -- \$ 5,100
4b. Date Construction Ends:	1st. Qtr. FY 1999	TPC -- \$ 6,130
7. <u>Financial schedule (Federal Funds):</u>		

<u>Fiscal Year</u>	<u>Appropriation</u>	<u>Adjustments</u>	<u>Obligations</u>	<u>Costs</u>
1995	\$ 2,000		\$ 2,000	\$ 500
1996	1,000	\$ -400 a/	600	1,917
1997	0		0	200
1998	2,500		2,500	2,200
1999	0		0	283

a/ Reflects reduction of \$400,000 in uncosted balances to meet the FY 1997 Appropriation.



1. Title and Location of Project:	219-S Secondary Containment Upgrade, Richland, Washington	2a. Project No.: 95-D-407
		2b. Construction Funded

8. Project Description, Justification and Scope

The purpose of this project is to provide the necessary modifications to bring the 219-S Waste Handling Facility into compliance with the Washington Administrative Code (WAC) requirements for treatment, storage, and disposal facilities. The 219-S Facility is part of the 222-S Laboratory Complex and is essential to its continued operation. The complex is currently operating under interim status which allows for continued operation of the facilities while the provisions of the Part B Dangerous Waste Permit are negotiated. The scope of the project is included in the provisions of the permit. Failure to complete this work scope means continuing to operate a TSD facility that does not meet current regulatory requirements. Approval of the 222-S Laboratory Part B Permit which is required for continued operation could be jeopardized.

The 219-S Facility located in the 200 West Area of the Hanford Site is a three-tank waste treatment facility that receives, accumulates, and treats the 222-S Laboratory low-level waste prior to transfer to tank farms. The existing system's configuration has two 4,000 gallon tanks (located in one cell) and one 1,500 gallon tank (located in the second cell with a spare space). The existing 4,000 gallon tanks will be reused, and the 1,500 gallon tank will be replaced with a new 1,900 gallon tank to be located in the spare space. The upgrades shall consist of installing (1) a liner system in the existing vault cells as a means of providing secondary containment, and (2) a new leak detection system. In consideration of limiting facility down time during construction, a phased approach will be utilized. This phased approach will incorporate a temporary system configuration which will allow the facility's normal waste processing operations to continue throughout the construction schedule.

The 222-S Laboratory Complex has a long-term mission to support various environmental restoration and tank waste remediation activities. The 222-S Laboratory operations also support many Tri-Party Agreement milestones.

- \* The total estimated cost and total project cost increased significantly due to increased labor costs during construction associated with radiological protection requirements. The conceptual estimate assumed that masks would not be needed by construction workers after the stainless steel liners were installed. Due to the pressure of alpha contamination, masks will be required at all times and bottled fresh air will be required for all welding, cutting, or grinding activities.
- \*
- \*
- \* The fiscal year 1998 appropriation will be used for construction, to complete procurement activities, and to provide project management support.
- \*

1. Title and Location of Project:	219-S Secondary Containment Upgrade, Richland, Washington	2a. Project No.: 95-D-407
		2b. Construction Funded

9. Details of Cost Estimate: a/ b/

	<u>Item Cost</u>	<u>Total Cost</u>
a. Design and Management costs .....		\$ 1,200
1. Engineering design and inspection at approximately 29.9 percent of construction costs, Item b (Design, drawings, and Specifications: \$410) .....	\$ 1,000	
2. Construction Management Costs .....	0	
3. Project management at 5.9 percent of construction costs (item c) .....	200	
b. Land and land rights .....		0
c. Construction costs .....		3,300
1. Improvements to land .....	0	
2. Buildings .....	0	
3. Other structures .....	0	
4. Utilities .....	0	
5. Special facilities .....	3,300	
d. Standard equipment .....		0
e. Major computer items .....		0
f. Removal cost less salvage .....		0
g. Design and project liaison, testing, checkout and acceptance .....		<u>0</u>
h. Subtotal .....		\$ 4,500
I. Contingencies at approximately 13 percent of above costs .....		<u>600</u>
j. Total line item cost (section 11, a. 1. (a) .....		\$ 5,100
k. LESS: Non-Federal contribution .....		<u>0</u>
l. Net Federal total estimated cost (TEC) .....		\$ 5,100

10. Method of Performance

Design, procurement, construction, and inspection shall be performed by the onsite engineer-constructor.

a/ This estimate is based on revision 1 of the definitive design estimates dated March 1996.

b/ All cost include escalation based on the Departmental Price Change Index for FY 1998.

1. Title and Location of Project:	219-S Secondary Containment Upgrade, Richland, Washington	2a. Project No.: 95-D-407
		2b. Construction Funded

11. Schedule of Project Funding and Other Related Funding Requirements

	<u>Previous Years</u>	<u>FY 1996</u>	<u>FY 1997</u>	<u>FY 1998</u>	<u>Outyears</u>	<u>TOTAL</u>
a. Total facility costs						
(1) Total facility costs						
(a) Line item (Section 10) .....	\$ 500	\$ 1,917	\$ 200	\$ 2,200	\$ 283	\$ 5,100
(b) Operating Expense Funded equipment .....	0	0	0	0	0	0
(c) Inventories .....	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
Total facility costs (Federal and Non-Federal) ....	\$ 500	\$ 1,917	\$ 200	\$ 2,200	\$ 283	\$ 5,100
(2) Other project costs						
(a) R&D necessary to complete project .....	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0
(b) Conceptual design costs .....	90	0	0	0	0	90
(c) Decontamination & decommissioning (D&D) .....	0	0	0	0	0	0
(d) NEPA documentation costs .....	0	0	0	0	0	0
(e) Other project-related costs .....	<u>\$ 170</u>	<u>\$ 220</u>	<u>\$ 100</u>	<u>\$ 330</u>	<u>\$ 120</u>	<u>\$ 940</u>
(f) Total other project costs .....	<u>\$ 260</u>	<u>\$ 220</u>	<u>\$ 100</u>	<u>\$ 330</u>	<u>\$ 120</u>	<u>\$ 1,030</u>
(g) Total project costs .....	\$ 760	\$ 2,137	\$ 300	\$ 2,530	\$ 403	\$ 6,130
(h) LESS: Non-federal contribution .....	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
(I) Net Federal total project cost (TPC) .....	\$ 760	\$ 2,137	\$ 300	\$ 2,530	\$ 403	\$ 6,130
b. Related annual funding (estimated life of project--25 years)						
(1) Facility operating costs .....						\$ 0
(2) Facility maintenance and repair costs .....						0
(3) Programmatic operating expenses directly related to the facility .....						0
(4) Capital equipment not related to construction but related to the programmatic effort in the facility .....						0
(5) GPP or other construction related to the programmatic effort in the facility .....						0
(6) Utility costs .....						0
(7) Other costs .....						<u>0</u>
Total related annual funding .....						\$ 0

1. Title and Location of Project:	219-S Secondary Containment Upgrade, Richland, Washington	2a. Project No.: 95-D-407
		2b. Construction Funded

12. Narrative Explanation of Total Project Funding and Other Related Funding Requirements

a. Total project funding

(1) Total facility costs

- (a) Line item--\$5,100,000; these funds will be used for design, procurement, construction, and project management.
- (b) Expense-funded equipment--None.
- (c) Inventories--None.

(2) Other project costs

- (a) R&D necessary to complete construction--None.
- (b) Conceptual design--Conceptual design report was completed at a cost of \$90,000.
- (c) Decontamination & decommissioning (D&D)--None.
- (d) NEPA documentation costs--Work scope was included in an environmental assessment prepared for the 222-S Radioactive Liquid Waste Line Replacement project; therefore, this project will not incur any national Environmental Policy Act (NEPA) costs. The environmental assessment and the finding of no significant impact were submitted to the U.S. Department of Energy, Richland Field Office for approval in March 1993.
- (e) Other project related costs--\$940,000: These costs include environmental documentation preparation, permitting, operating contractor support during construction and start-up/operational readiness.
- (f) Non-Federal contribution--None.

b. Related annual funding

- (1) Facility operating costs--This project will have no impact on the operating costs of the 219-S Facility.
- (2) Facility maintenance and repair costs--This project will have no impact on the maintenance and repair costs of the 219-S Facility.
- (3) Programmatic operating expenses directly related to the facility--This project will have no impact on the program costs associated with the 219-S Facility.
- (4) Capital equipment not related to construction but related to the programmatic effort in the facility--None.
- (5) GPP or other construction related to programmatic effort--None.
- (6) Utility costs--This project will not impact the utility costs associated with the operation of the 219-S facility.
- (7) Other costs--None.

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NATIONAL DEFENSE ASSET ACQUISITION  
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Office of Waste Management

1. Title and Location of Project:	Melton Valley Storage Tanks Capacity Increase, Oak Ridge National Laboratory, Oak Ridge, Tennessee	2a. Project No.: 94-D-404
		2b. Plant and Construction

SIGNIFICANT CHANGES

- o No Significant changes.

DEPARTMENT OF ENERGY  
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NATIONAL DEFENSE ASSET ACQUISITION  
 (Tabular dollars in thousands. Narrative material in whole dollars.)

Office of Waste Management

1. Title and Location of Project:	Melton Valley Storage Tanks Capacity Increase, Oak Ridge National Laboratory, Oak Ridge, Tennessee	2a. Project No.: 94-D-404
		2b. Plant and Construction
3a. Date A-E Work Initiated, (Title I Design Start Scheduled):	1st Quarter FY 1994	5. Previous Cost Estimate:
		Total Estimated Cost (TEC) -- \$48,000
3b. A-E Work (Titles I and II) Duration:	15 months	Total Project Cost (TPC) -- \$52,400
4a. Date Physical Construction Starts:	1st Quarter FY 1995	6. Current Cost Estimate:
		TEC -- \$48,000
4b. Date Construction Ends:	4th Quarter FY 1998	TPC -- \$52,400
7. <u>Financial Schedule (Federal Funds):</u>		

	<u>Fiscal Year</u>	<u>Appropriation</u>	<u>Adjustments</u>	<u>Obligations</u>	<u>Costs</u>
	1994	\$ 9,400	- 1,337 <u>a/</u>	\$ 8,063	\$ 2,383
	1995	21,373		21,373	6,051
	1996	11,000		11,000	23,187
	1997	6,345		6,345	10,016
*	1998	1,219		1,219	6,363

\* a/ Congressionally mandated rescission of \$118,000 and reduction of \$1,219,000 due to use of uncosted balances.

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1. Title and Location of Project: Melton Valley Storage Tanks Capacity Increase,  
Oak Ridge National Laboratory, Oak Ridge, Tennessee

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2a. Project No.: 94-D-404  
2b. Plant and Construction

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8. Project Description, Justification and Scope

This project will provide an additional 450,000 gallons of functional storage capacity to the existing Melton Valley Storage Tanks (MVST) Facility plus a reserve capacity of 90,000 gallons, which is equal to the useable capacity of the largest tank to be installed. The new facility will be located in Melton Valley and will have the capability to transfer and receive liquids and readily pumpable sludges to and from the existing MVST facility.

The following facilities will be provided:

- a. Lined tank vaults containing six 100,000-gallon Liquid Low-Level Waste (LLLW) storage tanks. Each tank will provide a 10 percent free board space, leaving a useable capacity of 90,000 gallons each.
- b. A lined vault adjacent to the tank vaults which provides confinement for the associated process pumps and valves.
- c. A High Efficiency Particulate Air (HEPA) filtered ventilation system which maintains the tanks and vaults under negative pressure and prevents the buildup of combustible gases.
- d. A buried and lined valve pit which connects the Melton Valley Storage Tanks-Capacity Increase Project (MVST-CIP) to the existing MVST facility and the LLLW Evaporator in Bethel Valley.
- e. A truck unloading facility consisting of a diked concrete pad and piping connections capable of receiving chemicals from trucks and pumping liquid process waste into a process waste tanker.
- f. A control and equipment room which houses support equipment required to operate the above facilities.

Presently, the MVST facility is filled to near capacity with LLLW which contains transuranic (TRU) waste. The existing MVSTs were built in 1980 to support ORNL's hydrofracture operations for disposal of LLLW. Since the shutdown of the hydrofracture operations, ORNL has had no way to dispose of the LLLW generated. For the near-term, the LLLW supernate containing non-TRU constituents has been drawn from the tanks and solidified for on-site storage thus leaving large volumes of precipitate remaining inside the tanks. However, the on-site storage is limited and can be used only until permanent disposal is available.

Since a method does not exist for disposing of the LLLW generated at ORNL, the capacity of the MVST must be increased in order to continue operations. Additionally, the Federal Facility Agreement (FFA), which requires the transfer of waste from leaking, inactive, and substandard LLLW tanks, was recently signed by the Department of Energy (DOE), Tennessee Department of Environment and Conservation (TDEC), and the Environmental Protection Agency (EPA), increasing the need for additional storage capacity. New nominal storage capacity of 600,000 gallons is needed by 1998 in order to accommodate transfers required by the FFA, continue ongoing ORNL operations, and provide a safety margin for upsets and emergencies. Planned installation is in a modular format due to timing and funding constraints. The expansion is to be a storage facility and not a processing center. Capabilities for sampling of the waste will be provided.

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1. Title and Location of Project: Melton Valley Storage Tanks Capacity Increase,  
Oak Ridge National Laboratory, Oak Ridge, Tennessee

2a. Project No.: 94-D-404  
2b. Plant and Construction

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8. Project Description, Justification and Scope (continued)

The planned expansion will add six tanks, each with a maximum capacity of 100,000 gallons. One tank (100,000 gallons) will be kept empty as free reserve. The remaining five tanks will only be filled to 90 percent capacity, yielding a working capacity for the project of 450,000 gallons. The additional 600,000 gallons of capacity will provide for 170,000 gallons to be transferred from inactive, and substandard tanks; 150,000 gallons transferred from the Evaporator Facility; 130,000 gallons for future ORNL operations; 50,000 gallons of in-tank freeboard; and 100,000 gallons of reserve capacity.

\* The funding for FY 1998 will be used to complete construction.



1. Title and Location of Project: Melton Valley Storage Tanks Capacity Increase,  
Oak Ridge National Laboratory, Oak Ridge, Tennessee

2a. Project No.: 94-D-404  
2b. Plant and Construction

9. Details of Cost Estimate

	<u>Item Cost</u>	<u>Total Cost</u>
a. Design and Management costs .....		\$ 11,518
1. Engineering design and inspection at approximately 28.1 percent of construction costs, Item c (Design, Drawings, and Specifications: \$4,373) .....	\$ 8,031	
2. Construction Management Costs .....	2,096	
3. Project management at 6 percent of construction costs (item c) .....	1,391	
b. Land and land rights .....		0
c. Construction costs .....		28,626
1. Improvements to land .....	717	
2. Buildings .....	7,755	
3. Other structures .....	0	
4. Utilities .....	475	
5. Special facilities .....	19,679	
d. Standard equipment .....		0
e. Major computer items .....		0
f. Removal cost less salvage .....		0
g. Design and project liaison, testing, checkout and acceptance .....		<u>800</u>
h. Subtotal (a through g) .....		\$40,944
i. Contingencies at approximately 17 percent of above costs .....		<u>7,056</u>
j. Total line-item cost (section 11, a. 1. (a)) .....		\$48,000
k. LESS: Non-Federal contribution .....		<u>0</u>
l. Net Federal total estimated cost (TEC) .....		\$48,000

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1. Title and Location of Project: Melton Valley Storage Tanks Capacity Increase,  
Oak Ridge National Laboratory, Oak Ridge, Tennessee

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2a. Project No.: 94-D-404  
2b. Plant and Construction

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10. Method of Performance

DOE-ORO will provide overall project management.

Design will be performed under a negotiated architect-engineer contract and inspection will be performed by the operating contractor or the architect-engineer at DOE's option. Design, procurement, inspection and checkout of the special facilities will be by the operating contractor. To the extent feasible, construction and procurement will be accomplished by fixed-price contracts and subcontracts awarded on the basis of competitive bidding administered by the construction manager.

11. Schedule of Project Funding and Other Related Funding Requirements

	<u>Previous Years</u>	<u>FY 1996</u>	<u>FY 1997</u>	<u>FY 1998</u>	<u>Outyears</u>	<u>TOTAL</u>
a. Total facility costs						
(1) Total facility costs						
* (a) Line-item (Section 9.j) . . . . .	\$ 8,434	\$23,187	\$10,016	\$ 6,363	\$ 0	\$ 48,000
(b) Plant engineering and design . . . . .	0	0	0	0	0	0
(c) Operating Expense Funded equipment . . . . .	0	0	0	0	0	0
(d) Inventories . . . . .	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
* Total facility costs (Federal and Non-Federal) . . . .	\$ 8,434	\$23,187	\$10,016	\$ 6,363	\$ 0	\$ 48,000
(2) Other project costs						
(a) R&D necessary to complete project . . . . .	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0
(b) Conceptual design costs . . . . .	990	0	0	0	0	990
(c) Decontamination & Decommissioning (D&D) . . . . .	0	0	0	0	0	0
(d) NEPA documentation costs . . . . .	100	0	0	0	0	100
(e) Other project-related costs . . . . .	<u>2,510</u>	<u>250</u>	<u>450</u>	<u>100</u>	<u>0</u>	<u>3,310</u>
(f) Total other project costs . . . . .	<u>\$ 3,600</u>	<u>\$ 250</u>	<u>\$ 450</u>	<u>\$ 100</u>	<u>\$ 0</u>	<u>\$ 4,400</u>
(g) Total project costs . . . . .	\$12,034	\$23,437	\$10,466	\$ 6,463	\$ 0	\$ 52,400
(h) LESS: Non-federal contribution . . . . .	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
(i) Net Federal total project cost (TPC) . . . .	\$12,034	\$23,437	\$10,466	\$ 6,463	\$ 0	\$ 52,400

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1. Title and Location of Project: Melton Valley Storage Tanks Capacity Increase, Oak Ridge National Laboratory, Oak Ridge, Tennessee	2a. Project No.: 94-D-404 2b. Plant and Construction
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11. Schedule of Project Funding and Other Related Funding Requirements (continued)

b. Related annual funding (estimated useful life of facility project--30 years)	
(1) Facility operating costs .....	\$ 150
(2) Facility maintenance and repair costs .....	100
(3) Programmatic operating expenses directly related to the facility .....	100
(4) Capital equipment not related to construction but related to the programmatic effort in the facility .....	100
(5) GPP or other construction related to the programmatic effort in the facility .....	200
(6) Utility costs .....	50
(7) Other costs .....	<u>100</u>
Total related annual funding .....	\$ 800

12. Narrative Explanation of Total Project Funding and Other Related Funding Requirements

- a. Total project funding
  - (1) Total facility costs
    - (a) Line item - Construction line item costs for design, procurement, and construction of the Melton Valley Storage Tank Capacity Increase Project are estimated to be \$48,000,000. This includes \$200,000 for readiness reviews.
    - (b) Plant Engineering and Design - No narrative required.
    - (c) Expense-funded equipment - No narrative required.
    - (d) Inventories - No narrative required.
  - (2) Other project costs
    - (a) R&D necessary to complete construction - No narrative required.
    - (b) Conceptual design - The conceptual design was completed in April 1992 at a cost of \$990,000. This included preparation of a Project Safety Assessment.
    - (c) Decontamination & Decommissioning (D&D) - No narrative required.
    - (d) NEPA documentation costs - Costs for National Environmental Policy Act documentation and activities are estimated to be \$100,000.
    - (e) Other project related costs - A total of \$30,000 is included for site characterization activities. The Design Criteria was to be completed in September 1993, at an estimated cost of \$540,000. Value Engineering studies are estimated at \$150,000. Other estimated costs of \$3,590,000 include activities associated with requirements definition, project validation, readiness reviews, Project Management Plan, Quality Assurance planning and other

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1. Title and Location of Project: Melton Valley Storage Tanks Capacity Increase,  
Oak Ridge National Laboratory, Oak Ridge, Tennessee

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2a. Project No.: 94-D-404  
2b. Plant and Construction

- miscellaneous supporting project documents.  
(f) Non-federal contribution - No narrative required.

12. Narrative Explanation of Total Project Funding and Other Related Funding Requirements

b. Related annual funding

- (1) Facility operating costs - The annual estimated costs of \$150,000 to operate the MVST-CI include personnel, operational sampling and analysis, health physics and industrial hygiene, and quality inspection.
- (2) Facility maintenance and repair costs - The annual estimated cost of \$100,000 for maintaining the facility and making necessary repairs as required.
- (3) Programmatic operating expenses directly related to the facility - The additional annual programmatic expenses of \$100,000 includes the cost of personnel needed for performance tracking and reporting, and budgeting.
- (4) Capital equipment not related to construction but related to the programmatic effort in the facility - Capital equipment in support of the MVST-CI is estimated to cost approximately \$100,000 for replacement equipment and upgrades necessary to meet changing environmental, industrial safety, and health and safety requirements.
- (5) GPP or other construction related to programmatic effort - Funding of \$200,000 is required for GPP or other construction needed in routine facility operations and in order to keep up with changing requirements.
- (6) Utility costs - Funding of \$50,000 provided for cost of utilities.
- (7) Other costs - Funding of \$100,000 is for miscellaneous costs which are not covered above.

DEPARTMENT OF ENERGY  
FY 1998 CONGRESSIONAL BUDGET REQUEST  
(Changes from FY 1997 Congressional Budget Request are denoted with a vertical line in left margin.)

NATIONAL DEFENSE ASSET ACQUISITION  
(Tabular dollars in thousands. Narrative material in whole dollars.)

Office of Waste Management

1. Title and Location of Project:	Initial Tank Retrieval Systems, Richland, Washington	2a. Project No.: 94-D-407 2b. Construction Funded
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SIGNIFICANT CHANGES

- o The Total Estimated Cost and Total Project Cost for the project have been significantly reduced as a result of cost effective design, reduction of project management and startup support, shorter schedule, reduced escalation, reduced contingency, application of learning curves, and use of common equipment. The revised estimate is based on completed Title I design.

DEPARTMENT OF ENERGY  
 FY 1998 CONGRESSIONAL BUDGET REQUEST  
 (Changes from FY 1997 Congressional Budget Request are denoted with a vertical line in left margin.)

NATIONAL DEFENSE ASSET ACQUISITION  
 (Tabular dollars in thousands. Narrative material in whole dollars.)

Office of Waste Management

1. Title and Location of Project:	Initial Tank Retrieval Systems, Richland, Washington	2a. Project No.: 94-D-407
		2b. Construction Funded
3a. Date A-E Work Initiated, (Title I Design Start Scheduled):	4th Qtr. FY 1994	5. Previous Cost Estimate:
		Total Estimated Cost (TEC) -- \$304,300
3b. A-E Work (Titles I & II) Duration:	123 months	Total Project Cost (TPC) -- \$358,200
4a. Date Physical Construction Starts:	2nd Qtr. FY 1997	6. Current Cost Estimate:
		TEC -- \$205,380 <u>a/</u>
4b. Date Construction Ends:	3rd Qtr. FY 2008	TPC -- \$232,480 <u>a/</u>
7. <u>Financial schedule (Federal Funds)</u>		

<u>Fiscal Year</u>	<u>Appropriation</u>	<u>Adjustments</u>	<u>Obligations</u>	<u>Costs</u>
1994	\$ 7,000	-6,000 <u>b/</u>	\$ 1,000	\$ 509
1995	17,700	-14,320 <u>b/</u>	3,380	3,151
1996	12,000	-6,400 <u>c/</u>	5,600	2,659
1997	12,600		12,600	13,198
1998	182,800		15,100	10,924
1999	0		14,576	14,767
2000	0		22,197	25,530
2001	0		17,096	16,904
2002	0		17,828	17,700
2003	0		15,900	15,900
2004	0		17,400	17,396
2005	0		18,900	18,404
2006	0		17,600	18,600
2007	0		14,000	14,000
2008	0		12,203	15,738

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1. Title and Location of Project: Initial Tank Retrieval Systems,  
Richland, Washington

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2a. Project No.: 94-D-407  
2b. Construction Funded

7. Financial Schedule (Federal Funds): (continued)

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a/ Current cost estimate and financial schedule are based on completed Title I design, including supplements 1 and 2.

b/ Reduction of \$9,020,000 of FY 1995 current year funds for Productivity Savings, use of \$6,000,000 of prior year funds for uncosted offset; reduction of \$5,300,000 current year funds due to defense rescission.

c/ Reduction of \$6,400,000 to meet uncosted offset for FY 1996.

8. Project Description, Justification and Scope

\* The Total Estimated Cost and Total Project Cost for the project have been significantly reduced as a result of cost effective design, reduction of project  
\* management and startup support, shorter schedule, reduced escalation, reduced contingency, application of learning curves, and use of common equipment. The  
\* revised estimate is based on completed Title I design.  
\*

The Initial Tank Retrieval Systems (ITRS) project is a fiscal year 1994 Major Systems Acquisition that will provide mixing and pumping systems for retrieval of radioactive wastes from ten of Hanford's 28 double-shell tanks (DST). The contents of these tanks consist of supernatant liquids and settled solids, which must be mixed prior to transferring the waste to alternative storage or treatment facilities. The ITRS will provide systems to mobilize settled solids and transfer wastes out of the tanks to provide feed to future processing plants, and allow near-term consolidation of tank wastes to restore useable DST storage capacity. This DST storage space is required to allow safe storage of alternate waste streams, such as waste from the single-shell tanks. Additionally, the dilution and waste removal capabilities provided by ITRS will provide passive mitigation of waste that generates and retains flammable gas currently stored in six watch list DSTs.

Existing equipment installed in the DSTs only allows the removal and transfer of supernatant liquids, and is incapable of suspending and removing the settled solids. Without the waste mixing, dilution, and removal functions provided by ITRS there will be no ability to provide feed to future processing plants, consolidate waste solids, or achieve passive mitigation.

\* Preliminary design of the retrieval system for tank 241-SY-101 was developed using an integrated approach with the existing 150-hp mixer pump installed by the  
\* Mitigation Program. The typical retrieval system for the other nine tanks consists of high horsepower mixer pumps to mobilize solids in the tank and a transfer  
\* system for removal of the tank contents. Tank internal components, such as thermocouple trees, will be replaced with higher strength equipment to withstand the  
\* forces induced by the mixer pumps. Monitoring and control systems will be installed to measure performance of the mixer pumps and tank operation. Remote  
\* decontamination equipment and disposable containment equipment will be utilized for removal and disposal of tank components.  
\*

8. Project Description, Justification and Scope (continued)

1. Title and Location of Project:	Initial Tank Retrieval Systems, Richland, Washington	2a. Project No.: 94-D-407 2b. Construction Funded
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- \* In FY 1998 funding supports completion of single-shell tank stabilization (Tri-Party Agreement milestone H-41), and preparation of high-level waste feed to the
- \* privatized treatment plant.
- \*
- \* The FY 1998 budget request will be used to complete construction, including health physics support, and to begin operation of a waste retrieval system in tank
- \* 241-SY-102. The FY 1998 request will also fund completion of Title II design, equipment procurement, and initial construction of a retrieval system for tank
- \* 241-AW-105. Included in the FY 1998 request is funding for Title II design start for the third retrieval system (241-AZ-102), project management and
- \* contingency.
- \*



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1. Title and Location of Project: Initial Tank Retrieval Systems,  
Richland, Washington

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2a. Project No.: 94-D-407  
2b. Construction Funded

9. Details of Cost Estimate a/ b/

	<u>Item Cost</u>	<u>Total Cost</u>
a. Design and Management costs .....		\$ 55,350
1. Engineering design and inspection at approximately 35.7 percent of construction costs, Item c (Design, Drawings, and Specifications: \$27,810) .....	\$ 38,720	
2. Construction Management Costs .....	6,750	
3. Project management at 8.9 percent of construction costs (item c) .....	9,880	
b. Land and land rights .....		0
c. Construction costs .....		108,560
1. Improvements to land .....	190	
2. Buildings .....	1,270	
3. Other structures (includes demolition) .....	20,190	
4. Utilities .....	4,280	
5. Special facilities .....	82,630	
d. Standard equipment .....		0
e. Major computer items .....		0
f. Removal cost less salvage .....		5,970
g. Design and project liaison, testing, checkout and acceptance .....		<u>0</u>
h. Subtotal .....		\$ 169,880
I. Contingencies at approximately 21 percent of above costs .....		<u>35,500</u>
j. Total line item cost (section 12, a. 1. (a) .....		\$ 205,380
k. LESS: Non-Federal contribution .....		<u>0</u>
l. Net Federal total estimated cost (TEC) .....		\$ 205,380

a/ Estimate is based on the Title I design including supplements 1 and 2 dated October 1995.

b/ Escalation rates were calculated from the February 1995 update of the economic escalation price change indices for DOE construction projects as published by the "Office of Infrastructure Acquisition, FM-50."

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1. Title and Location of Project:	Initial Tank Retrieval Systems, Richland, Washington
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2a. Project No.: 94-D-407
2b. Construction Funded

10. Method of Performance

The Initial Tank Retrieval Systems will be managed through the integrated management team approach. The U.S. Department of Energy, Richland Operations Office will have responsibility for project management. The integrating contractor responsibilities will be assigned to the operating contractor. The research and development contractor will provide technical support. Design and inspection shall be performed by the onsite architect-engineer. To the extent feasible, construction and procurement shall be accomplished by fixed-price contracts awarded on the basis of competitive bidding. Construction management will be performed by the onsite engineer-constructor.

1. Title and Location of Project: Initial Tank Retrieval Systems,  
Richland, Washington

2a. Project No.: 94-D-407  
2b. Construction Funded

11. Schedule of Project Funding and Other Related Funding Requirements

	<u>Previous Years</u>	<u>FY 1996</u>	<u>FY 1997</u>	<u>FY 1998</u>	<u>Outyears</u>	<u>TOTAL</u>
a. Total facility costs						
1. Total facility costs						
(a) Line item (Section 10) . . . . .	\$ 3,660	\$ 2,659	\$ 13,198	\$ 10,924	\$174,939	\$205,380
(b) Operating Expense Funded equipment . . . . .	0	0	0	0	0	0
(c) Inventories . . . . .	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
Total facility costs (Federal and Non-Federal) . . . .	\$ 3,660	\$ 2,659	\$ 13,198	\$ 10,924	\$174,939	\$205,380
2. Other project costs						
(a) R&D necessary to complete project . . . . .	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0
(b) Conceptual design costs . . . . .	1,609	0	0	0	0	1,609
(c) Decontamination & Decommissioning (D&D) . . . . .	0	0	0	0	0	0
(d) NEPA documentation costs . . . . .	10	0	0	0	0	10
(e) Other project-related costs . . . . .	<u>3,017</u>	<u>1,609</u>	<u>721</u>	<u>1,413</u>	<u>18,721</u>	<u>25,481</u>
(f) Total other project costs . . . . .	<u>\$ 4,636</u>	<u>\$ 1,609</u>	<u>\$ 721</u>	<u>\$ 1,413</u>	<u>\$ 18,721</u>	<u>\$ 27,100</u>
(g) Total project costs . . . . .	\$ 8,296	\$ 4,268	\$ 13,919	\$ 12,337	\$193,660	\$232,480
(h) LESS: Non-federal contribution . . . . .	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
(i) Net Federal total project cost (TPC) . . . . .	\$ 8,296	\$ 4,268	\$ 13,919	\$ 12,337	\$193,660	\$232,480
b. Related annual funding (estimated life of project-- 20-30 years for all subprojects)						
1. Facility operating costs . . . . .						\$ 250
2. Facility maintenance and repair costs . . . . .						50
3. Programmatic operating expenses directly related to the facility . . . . .						0
4. Capital equipment not related to construction but related to the programmatic effort in the facility . . . . .						0
5. GPP or other construction related to the programmatic effort in the facility . . . . .						0
6. Utility costs . . . . .						0
7. Other costs . . . . .						<u>0</u>
Total related annual funding . . . . .						\$ 300

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1. Title and Location of Project: Initial Tank Retrieval Systems,  
Richland, Washington

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2a. Project No.: 94-D-407  
2b. Construction Funded

12. Narrative Explanation of Total Project Funding and Other Related Funding Requirements

a. Total project funding

(1) Total facility costs

- (a) Line-Item - \$202,000,000; these funds will be used for design, procurement, construction, and project management.
- (b) Plant engineering & design - No narrative required.
- (c) Expense-funded equipment - No narrative required.
- (d) Inventories - No narrative required.
- (e) Non-Federal Contribution - No narrative required.

(2) Other project costs

- (a) R&D necessary to complete construction - No narrative required.
- (b) Conceptual design - was completed at an approximate cost of \$1,609,000.
- (c) Decontamination & decommissioning (D&D) - No narrative required.
- (d) NEPA documentation costs - The W-211 National Environmental Policy Act (NEPA) documentation of \$10,000 is integrated into the Hanford Defense Waste EIS, SIS-EIS, and WRS-EIS.
- (e) Other project-related costs - \$25,481,000; These costs include project definition, operating contractor support; site characterization, configuration verification, and startup activities.
- (f) Non-federal contribution - No narrative required.

b. Related annual funding

- (1) Facility operating costs - An allowance of \$250,000 has been included for operator time during the retrieval process and consumable materials required for operation of the system including dilution chemicals.
- (2) Facility maintenance and repair costs - A minimal allowance of \$50,000 has been included for normal maintenance and repair.
- (3) Programmatic operating expenses directly related to the facility - No narrative required.
- (4) Capital equipment not related to construction but related to the programmatic effort in the facility - No narrative required.
- (5) GPP or other construction related to the programmatic effort in the facility - No narrative required.
- (6) Utility costs - Negligible.
- (7) Other costs - No narrative required.

DEPARTMENT OF ENERGY  
FY 1998 CONGRESSIONAL BUDGET REQUEST  
(Changes from FY 1997 Congressional Budget Request are denoted with a vertical line in left margin.)

NATIONAL DEFENSE ASSET ACQUISITION  
(Tabular dollars in thousands. Narrative material in whole dollars.)

Office of Waste Management

1. Title and Location of Project:	High-Level Waste Removal from Filled Waste Tanks, <u>a/</u> Savannah River, South Carolina	2a. Project No.: 93-D-187 <u>a/</u> 2b. Construction Funds
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SIGNIFICANT CHANGES

- o Project TEC is reduced as a result of better than expected design and construction fixed price contracts costs.

DEPARTMENT OF ENERGY  
FY 1998 CONGRESSIONAL BUDGET REQUEST  
(Changes from FY 1997 Congressional Budget Request are denoted with a vertical line in left margin.)

NATIONAL DEFENSE ASSET ACQUISITION  
(Tabular dollars in thousands. Narrative material in whole dollars.)

Office of Waste Management

1. Title and Location of Project:	High-Level Waste Removal from Filled Waste Tanks, <u>a/</u> Savannah River, South Carolina	2a. Project No.: 93-D-187 <u>a/</u>
		2b. Construction Funds
3a. Date A-E Work Initiated:	3rd Qtr. FY 1983	5. Previous Cost Estimate:
		Total Estimated Cost (TEC) -- \$565,050
3b. A-E Work (Titles I & II) Duration:	327 months	Total Project Cost (TPC) -- \$828,238
4a. Date Physical Construction Starts:	2nd Qtr. FY 1980	6. Current Cost Estimate:
		TEC -- \$558,050
4b. Date Construction Ends:	4th Qtr. FY 2008	TPC -- \$821,238
7. <u>Financial schedule (Federal Funds):</u>		

	<u>Fiscal Year</u>	<u>Appropriation</u>	<u>Adjustments</u>	<u>Obligations</u>	<u>Costs</u>
	1993	\$ 2,000		\$ 0	\$ 0
	1994	3,000	+183,802 <u>a/ b/</u>	188,802	184,151
	1995	26,525	- 3,850 <u>c/</u>	22,675	16,476
	1996	19,700	-7,000 <u>d/</u>	12,700	15,380
	1997	20,000		20,000	11,572
	1998	171,969		17,520	17,211
*	1999	40,142		17,599	17,338
*	Outyears	101,762		278,754	295,922

a/ This represents the Operational Expense (OPEX) funded costs through FY 1994 of the three previously OPEX funded projects.

b/ This represents the actual Operating Expense (OPEX) funded costs through FY 1994. Previously reported OPEX costs of \$192,420,000 were an estimate. The adjustment of (\$8,618,000) reflects the difference between the estimated value and actual value.

c/ Use of current year (\$1,700,000) funds for Productivity Savings and (\$2,150,000) for FY 1995 rescission.

d/ Reflects use of prior year funds to meet uncOSTed offset to FY 1997 appropriation. Project TEC is reduced as a result due to better than expected fixed price contract costs.

1. Title and Location of Project:	High-Level Waste Removal from Filled Waste Tanks, a/ Savannah River, South Carolina	2a. Project No.: 93-D-187 a/ 2b. Construction Funds
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8. Project Description, Justification and Scope

The Waste Removal Program will provide, through a series of six subprojects, technical support, design, equipment, construction, and installation of waste removal facilities for all Type I, II, III and IV High-Level Radioactive Waste Tanks excluding those associated with the In-Tank Precipitation (ITP). A total of 47 waste tanks will be covered under facilities include slurry pumps, transfer pumps, transfer jets, structural support steel and associated instrumentation and distributed controls system (DCS). Each subproject will provide this equipment to allow salt and/or sludge to be removed and transferred to either ITP or Extended Sludge Processing (ESP) for eventual feed to the Defense Waste Processing Facility (DWPF). Each of the subprojects will provide the facilities necessary to perform waste removal from the associated tanks. The waste removal process itself will be performed and funded by Operations. This project does not include Decontamination & Decommission (D&D) of the tanks.

The purpose of this project is for removal of waste which is essential for maintaining the DWPF operations to meet Federal Facilities Compliance Agreement (FFCA), waste processing commitments, and Savannah River Site commitments to minimize high-level liquid waste in storage, and to provide support for continued waste receipts. This project supports the FFA commitment to discontinue the use of waste tanks which do not provide adequate secondary containment (Type I, II, and IV tanks).

If the funds are not appropriated for this project, the plant will not meet the required Federal Facilities Agreement (FFA) and Federal Facilities Compliance Agreement (FFCA), and DWPF will not have feed to operate.

a. Subproject #01 - Waste Removal, Phase II, S-2081

	<u>TEC</u>	<u>PREV.</u>	<u>FY 1996</u>	<u>FY 1997</u>	<u>FY 1998</u>	<u>OUTYEARS</u>	<u>Construction Start - Completion Dates</u>
*	\$300,050	\$184,232	\$ 7,981	\$ 3,659	\$ 104,178	\$ 0	2nd Qtr FY 1980    3rd Qtr FY 2007

This subproject was previously an authorized operating expense funded project. This subproject provides modifications to existing equipment to improve monitoring and/or waste removal facilities on twenty-four existing Type I, II, and IV tanks.

This subproject supports the Federal Facilities Agreement (FFA) commitment to discontinue the use of waste tanks which do not provide adequate secondary containment (Type I, II, and IV tanks).

S-2081 also provides three instrument and electrical control rooms, each with approximately 2,500 square feet of floor space. This project includes modifications to three Type III waste tanks to provide facilities to process sludge removed by all waste removal projects prior to being fed to DWPF. The FY 1998 funds will support design and construction consistent with High-Level Waste System Plan, including completion of Procurement and Installation of facilities on Tank 40 to support Sludge Batch #2B; completion of construction to allow installation of slurry pump in Tank 8; proposing Task Order Proposal Request (TOPR); awarding Title II design contract and complete Title II Design for Tanks 7 and 11 Waste Removal Facilities; and issuing construction fixed price contract (FPC) for procurement.

1. Title and Location of Project:	High-Level Waste Removal from Filled Waste Tanks, a/ Savannah River, South Carolina	2a. Project No.: 93-D-187 a/ 2b. Construction Funds
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8. Project Description, Justification and Scope (continued)

b. Subproject #02 - Type III Tank Salt Removal, Phase I, S-3291

<u>TEC</u>	<u>PREV.</u>	<u>FY 1996</u>	<u>FY 1997</u>	<u>FY 1998</u>	<u>OUTYEARS</u>	<u>Construction Start - Completion Dates</u>
\$47,838	\$6,692	\$4,121	\$3,136	\$33,889	\$0	2nd Qtr FY 1987 - 1st Qtr FY 2000

\* This subproject was previously an authorized operating expense funded project. This subproject provides for waste removal facilities for three Type III tanks and  
 \* a new (approximately 5,000 sq. ft.) control room expansion of the existing F-Area control room. The FY 1998 funds will provide for the support of design and  
 \* construction consistent with the High-Level Waste System Plan including procurement of Tank 29 Slurry Pumps and preparing them for installation, and  
 \* completing all punchlist activities.  
 \*

c. Subproject #03 - Type III Tank Salt Removal, Phase II, S-2860

<u>TEC</u>	<u>PREV.</u>	<u>FY 1996</u>	<u>FY 1997</u>	<u>FY 1998</u>	<u>OUTYEARS</u>	<u>Construction Start - Completion Dates</u>
\$106,506	\$20,035	\$552	\$4,705	\$30,066	\$51,148	2nd Qtr FY 1990 - 2nd Qtr FY 2000

This subproject was previously an authorized operating expense funded project. This subproject provides for waste removal facilities for two Type III tanks. In order to support waste removal activities a new control room (approximately 15,000 sq. ft.) with a distributed control system facility will be provided. This subproject provides modifications to existing facilities on 17 Type III waste tanks, evaporators, and supporting facilities to improve waste tank monitoring and control.

\* The FY 1998 funds will provide for the support of design and construction consistent with the High-Level Waste System Plan including: complete construction  
 \* FPC for H-Area West Hill Electrical and Instrumentation (E&I) upgrades; place Design FPC for F-Area Infrastructure Upgrades for service bridges, dirt  
 \* bank/pipe trenches, tank top steel and electricity tray for the F-Area Type III Tanks and the 2F evaporator; prepare the specification and award FPC for Title II  
 \* Design for waste removal from Tank 31; continue Design FPC for E&I upgrades for F-Area Type III Tanks, F-Area Diversion Box's (FDB), air compressors, 2-F  
 \* evaporator and F-Area Distribution Control System (DCS).  
 \*

d. Subproject #04 - Waste Removal Facilities, Phase III S-3025

<u>TEC</u>	<u>PREV.</u>	<u>FY 1996</u>	<u>FY 1997</u>	<u>FY 1998</u>	<u>OUTYEARS</u>	<u>Construction Start - Completion Dates</u>
\$103,656	\$ 518	\$ 46	\$ 8,500	\$ 3,836	\$ 90,756	1st Qtr FY 1997 - 4th Qtr FY 2008



1. Title and Location of Project:	High-Level Waste Removal from Filled Waste Tanks, a/ Savannah River, South Carolina	2a. Project No.: 93-D-187 a/ 2b. Construction Funds
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8. Project Description, Justification and Scope (continued)

d. Subproject #04 - Continued

This subproject was the original scope for this line item. Previous TEC of \$86,500,000 increased due to project extension to align with the High-Level Waste System Plan and to provide alignment of TEC/OPC accounting guidance. This subproject will provide for waste removal facilities for six Type III tanks in F- and H-Area Tank Farms. It also provides for caustic/inhibitor addition facilities for pH adjustment on tanks 35H, 36H, 37H. The FY 1998 funds will initiate definitive design for Tank 38 and East Hill Common Facilities.

e. Subproject #05 - Type III Tank Waste Removal Facilities, Phase IV, FY 2005 New Start

<u>TEC</u>	<u>PREV.</u>	<u>FY 1996</u>	<u>FY 1997</u>	<u>FY 1998</u>	<u>OUTYEARS</u>	<u>Construction Start - Completion Dates</u>
\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	

This subproject provides for waste removal facilities for six Type III tanks in F- and H-Areas, and provides for infrastructure requirements to support waste removal. The TPC rough order of magnitude estimate is \$125,000,000. This subproject will also provide modifications to 10 existing Type III tanks and supporting facilities to improve monitoring and control via a Distributed Control System.

f. Subproject #06 - Type III Tank Waste Removal Facilities, Phase V, FY 2008 New Start

<u>TEC</u>	<u>PREV.</u>	<u>FY 1996</u>	<u>FY 1997</u>	<u>FY 1998</u>	<u>OUTYEARS</u>	<u>Construction Start - Completion Dates</u>
\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	

This subproject will provide waste removal facilities for the remaining three Type III tanks. The TPC rough order of magnitude estimate is \$75,000,000.

1. Title and Location of Project:	High-Level Waste Removal from Filled Waste Tanks, a/ Savannah River, South Carolina	2a. Project No.: 93-D-187 a/ 2b. Construction Funds
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9. Details of Cost Estimate

Cost for subprojects 01, 02, and 03 are completed Title I estimates. Cost estimate basis for subproject 04 is a completed Conceptual Design Report. Costs and schedule for subprojects 05 and 06 are not included in this estimate since these tanks are not scheduled for waste removal until after 2010, this will allow the estimates to incorporate all the actual cost, schedule and technical performance from earlier tanks resulting in estimates with less uncertainty.

	<u>Item Cost</u>	<u>Total Cost</u>
a. Design and Management costs .....		\$160,522
1. Engineering design and inspection at approximately 35.2 percent of construction costs, Item c (Design, Drawings, and Specifications: (\$9,000) .....	\$111,571	
2. Construction Management Costs .....	19,667	
3. Project management at 8.9 percent of construction costs (item c) .....	29,284	
b. Land and land rights .....		0
c. Construction costs .....		321,744
1. Improvements to land .....	0	
2. Buildings .....	6,936	
3. Other structures .....	212,732	
4. Utilities .....	0	
5. Special facilities .....	102,076	
d. Standard equipment .....		1,000
e. Major computer items .....		358
f. Removal cost less salvage .....		12,000
g. Design and project liaison, testing, checkout and acceptance .....		0
h. Subtotal .....		\$495,624
I. Contingencies at approximately 13 percent of above costs .....		62,426
j. Total line item cost (section 11, a. 1. (a) .....		\$558,050
k. LESS: Non-Federal contribution .....		0
l. Net Federal total estimated cost (TEC) .....		\$558,050

1. Title and Location of Project:	High-Level Waste Removal from Filled Waste Tanks, a/ Savannah River, South Carolina	2a. Project No.: 93-D-187 a/ 2b. Construction Funds
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9. Details of Cost Estimate (continued)

The DOE escalation rates (% per year) used for this estimate are as follows:

<u>Fiscal Year</u>	<u>FY 1993</u>	<u>FY 1994</u>	<u>FY 1995</u>	<u>FY 1996</u>	<u>FY 1997</u>	<u>FY 1998</u>	<u>FY 1999</u>	<u>FY 2000</u>	<u>OUTYEARS</u>
Escalation	2.4	2.5	3.5	3.5	3.5	3.5	3.3	3.3	3.3

The above estimate includes \$50,967,000 for escalation.

10. Method of Performance

Design will be performed by Bechtel Savannah River Design Engineering and a project engineering services contract or a fixed-price contractor for the Management and Operating (M&O) contractor at the Savannah River Site. Construction and procurement will be accomplished utilizing fixed-price subcontracts awarded on the basis of competitive bidding, where possible.

1. Title and Location of Project:	High-Level Waste Removal from Filled Waste Tanks, a/ Savannah River, South Carolina	2a. Project No.: 93-D-187 a/ 2b. Construction Funds
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11. Schedule of Project Funding and Other Related Funding Requirements

	<u>Previous Years</u>	<u>FY 1996</u>	<u>FY 1997</u>	<u>FY 1998</u>	<u>Outyears</u>	<u>TOTAL</u>
a. Total facility costs						
(1) Total facility costs						
(a) Line item (Section 9) .....	\$200,627	\$ 15,380	\$ 11,572	\$ 17,211	\$313,260	\$558,050
(b) Operating Expense Funded equipment .....	0	0	0	0	0	0
(c) Inventories .....	0	0	0	0	0	0
(d) Non-Federal Contributions .....	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
(e) Total fac costs (Federal and Non-Federal) ...	\$200,627	\$ 15,380	\$11,572	\$ 17,211	\$313,260	\$558,050
(2) Other project costs						
(a) R&D necessary to complete project .....	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0
(b) Conceptual design costs .....	800	0	0	0	0	800
(c) Decontamination & decommissioning (D&D) .....	0	0	0	0	0	0
(d) NEPA documentation costs .....	0	0	0	0	0	0
(e) Other project-related costs .....	<u>13,029</u>	<u>7,316</u>	<u>9,768</u>	<u>9,768</u>	<u>222,507</u>	<u>262,388</u>
(f) Total other project costs .....	<u>\$ 13,829</u>	<u>\$ 7,316</u>	<u>\$ 9,768</u>	<u>\$ 9,768</u>	<u>\$222,507</u>	<u>\$263,188</u>
(g) Total project costs .....	\$214,456	\$ 22,696	\$21,340	\$26,979	\$535,767	\$821,238
(h) LESS: Non-federal contribution .....	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
(i) Net Federal total project cost (TPC) .....	\$214,456	\$ 22,696	\$21,340	\$26,979	\$535,767	\$821,238
b. Related annual funding (estimated life of project--30 years)						
(1) Facility operating costs .....						\$ 6,100
(2) Facility maintenance and repair costs .....						2,000
(3) Programmatic operating expenses directly related to the facility a/ .....						0
(4) Capital equipment not related to construction but related to the programmatic effort in the facility .....						500
(5) GPP or other construction related to the programmatic effort in the facility a/ .....						0
(6) Utility costs .....						0
(7) Other costs .....						<u>0</u>
Total related annual funding .....						\$ 8,600

1. Title and Location of Project:	High-Level Waste Removal from Filled Waste Tanks, <u>a/</u> Savannah River, South Carolina	2a. Project No.: 93-D-187 <u>a/</u> 2b. Construction Funds
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12. Narrative Explanation of Total Project Funding and Other Related Funding Requirements

- a. Total project funding
  - (1) Total facility costs
    - (a) Line item--Narrative not required.
    - (b) Expense-funded equipment--None.
    - (c) Inventories--None.
    - (d) Non-Federal contribution--None.
  - (2) Other project costs
    - (a) R&D necessary to complete construction--None.
    - (b) Conceptual design--\$800,000.
    - (c) Decontamination & decommissioning (D&D)--None.
    - (d) NEPA documentation costs--None.
    - (e) Other project related costs--Includes \$262,388,000 costs to fund permitting activities, Post Modification Testing Reviews, one time program development startup, and operating contractor project support.
    - (f) Non-Federal contribution--None.
- b. Related annual funding
  - (1) Facility operating costs--Includes operating manpower, supplies and energy and additional operators. It is estimated that operation of this facility will result in a net annual cost increase of \$6,100,000 and 56 FTEs. This facility does not replace an existing facility.
  - (2) Facility maintenance and repair costs--\$2,000,000.
  - (3) Programmatic operating expenses directly related to the facility--Included in item one.
  - (4) Capital equipment not related to construction but related to the programmatic effort in the facility--\$500,000.
  - (5) GPP or other construction related to programmatic effort--None.
  - (6) Utility costs--Included in item one.
  - (7) Other costs--None.

DEPARTMENT OF ENERGY  
FY 1998 CONGRESSIONAL BUDGET REQUEST  
(Changes from FY 1997 Congressional Budget Request are denoted with a vertical line in left margin.)

NATIONAL DEFENSE ASSET ACQUISITION  
(Tabular dollars in thousands. Narrative material in whole dollars.)

Office of Waste Management

1.	Title and Location of Project:	Hazardous Waste Treatment and Processing Facility, Pantex Plant, Amarillo, Texas	2a.	Project No.: 92-D-172
			2b.	Construction Funded

SIGNIFICANT CHANGES

- o The Total Estimated Cost has been reduced \$8,900,000 as forecasted waste generation rates have been reduced, and other efficiencies achieved.

DEPARTMENT OF ENERGY  
 FY 1998 CONGRESSIONAL BUDGET REQUEST  
 (Changes from FY 1997 Congressional Budget Request are denoted with a vertical line in the left margin.)

NATIONAL DEFENSE ASSET ACQUISITION  
 (Tabular dollars in thousands. Narrative material in whole dollars.)

Office of Waste Management

1. Title and Location of Project:	Hazardous Waste Treatment and Processing Facility, Pantex Plant, Amarillo, Texas	2a. Project No.:	92-D-172
		2b. Construction Funded	
3a. Date A-E Work Initiated, (Title I Design Start Scheduled):	2nd Qtr. FY 1996	5. Previous Cost Estimate:	
		Total Estimated Cost (TEC) --	\$14,900
3.b. A-E Work (Titles I & II) Duration:	23 months	Total Project Cost (TPC) --	\$16,200
4.a. Date Physical Construction Starts:	2nd Qtr. FY 1998	6. Current Cost Estimate:	
		TEC --	\$6,000
4.b. Date Construction Ends:	3rd Qtr. FY 1999	TPC --	\$7,930 - Date 11/95
7. <u>Financial schedule (Federal Funds):</u>			

<u>Fiscal Year</u>	<u>Appropriation</u>	<u>Adjustments</u> <u>a/</u>	<u>Obligations</u>	<u>Costs</u>
Prior Years	\$ 4,297	-1,650	\$ 3	\$ 3
1995	0	-500	0	0
1996	0	-1,147	950	420
1997	0		47	360
1998	5,000		5,000	2,659
1999	0		0	2,558

a/ Reductions reflect use of uncosted balances to offset FY 1995 and FY 1996 Appropriations and FY 1995 Rescission of \$500,000.

1.	Title and Location of Project: Hazardous Waste Treatment and Processing Facility, Pantex Plant, Amarillo, Texas	2a.	Project No.: 92-D-172
		2b.	Construction Funded

8. Brief physical description of project:

\* This project provides for the design and construction of a new Hazardous Waste Treatment and Processing Facility (HWTPE) and a support structure. This facility will provide the capability to perform treatment and processing of low-level radioactive mixed waste, low-level radioactive waste, and hazardous waste generated at the DOE's Pantex Plant. Transuranic (TRU) Waste is not anticipated to be treated or processed in this facility. The wastes will be treated and/or processed so that a minimized and/or stabilized volume can be sent off-plant to regulated disposal facilities, and a maximum amount of material can be recycled. This facility will be built at the DOE's Pantex Plant in Amarillo, Texas. The facility will be located west of South 13th Street, south of the RCRA Hazardous Waste Staging Facility, and north of the Steam Plant Facility.

This facility is needed to meet the requirements of an agreed order, which was issued by the Texas Natural Resource Conservation Commission (TNRCC) in response to the Federal Facilities Compliance Act (FFCA), the Resource Conservation and Recovery Act (RCRA), the Clean Air Act (CAA), the Clean Water Act (CWA), the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), and the National Environmental Policy Act (NEPA). This facility will aid in compliance with 40 CFR 268.50. This facility will also permit the Pantex Plant to fully implement the Mobile Treatment Unit (MTU) concept as directed in the DOE Albuquerque Mixed Waste Treatment Plan.

The main building will be a single-story building, and will be designed to provide access to the RCRA Hazardous Waste Staging Facility and its dock. The main building's gross square footage is 20,850 ft<sup>2</sup> with 18,450 ft<sup>2</sup> net useable space. The support structure adds approximately 500 ft<sup>2</sup> of useable space for a total gross square footage of 21,350 ft<sup>2</sup>. Treatment and processing equipment will be procured under this project or moved from existing processes. Development and construction of mobile treatment units is not part of the scope of this project.

Architecturally, the main building is divided into two major sections; the operations section and the administrative section. The operational section includes areas for separate mixed, low-level, and hazardous waste treatment and processing; operation of mobile treatment units, solvent recovery, drum crushing, and drum rinsing. This facility will be designed with all applicable personnel and public safety features. Minor demolition will be required.



1. Title and Location of Project:	Hazardous Waste Treatment and Processing Facility, Pantex Plant, Amarillo, Texas	2a. Project No.: 92-D-172
		2b. Construction Funded

9. Details of Cost Estimate:

	<u>Item Cost</u>	<u>Total Cost</u>
a. Design and Management costs. ....		\$ 1,395
1. Engineering design and inspection at approximately 20 percent of construction costs, Item c .....	\$ 645	
2. Construction Management at 8.9 percent of construction costs, Item c .....	286	
3. Project management at 16.9 percent of construction costs (item c) .....	464	
b. Land and land rights .....		0
c. Construction costs .....		3,290
1. Improvements to land, Including grading, landscaping, drainage, paving, fencing, lighting, and pedestrian access walks, etc. ....	265	
2. Buildings - 21,350 sq. ft. ....	2,540	
3. Other structures .....	25	
4. Utilities, including electrical power, water, sanitary sewer lines, condensate return lines, etc. ....	460	
5. Special facilities .....	0	
d. Standard equipment .....		315
e. Major computer items .....		0
f. Removal cost less salvage .....		0
g. Design and project liaison, testing, checkout and acceptance .....		<u>0</u>
h. Subtotal .....		5,000
I. Contingencies at approximately 20 percent of above costs .....		<u>1,000</u>
j. Total line-item cost (section 12, a. 1. (a)) .....		\$ 6,000
k. LESS: Non-Federal contribution .....		<u>0</u>
l. Net Federal total estimated cost (TEC) .....		\$ 6,000

10. Method of performance:

Contracting arrangements are as follows:

- a. Design, procurement, and construction: Fixed-price contract awarded on the basis of competitive bidding.

1. Title and Location of Project: Hazardous Waste Treatment and Processing Facility,  
Pantex Plant, Amarillo, Texas

2a. Project No.: 92-D-172  
2b. Construction Funded

11. Schedule of Project Funding and Other Related Funding Requirements:

	<u>Previous Years</u>	<u>FY 1996</u>	<u>FY 1997</u>	<u>FY 1998</u>	<u>Outyears</u>	<u>TOTAL</u>
a. Total facility costs						
(1) Total facility costs						
(a) Line item (Section 10).....	\$ 3	\$ 420	\$ 360	\$ 2,659	\$ 2,558	\$ 6,000
(b) Operating Exp Funded equipment .....	0	0	0	0	0	0
(c) Inventories .....	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
(d) Total fac. costs (Fed. and Non-Federal) .....	\$ 3	\$ 420	\$ 360	\$ 2,659	\$ 2,558	\$ 6,000
(2) Other project costs						
(a) R&D necessary to complete project .....	0	0	0	0	0	0
(b) Conceptual design costs .....	280	0	0	0	0	280
(c) Decontamination & decommissioning (D&D) .....	0	0	0	0	0	0
(d) NEPA documentation costs .....	150	50	0	0	0	200
(e) Other project-related costs .....	<u>200</u>	<u>200</u>	<u>200</u>	<u>450</u>	<u>400</u>	<u>1,450</u>
(f) Total other project costs .....	<u>\$ 630</u>	<u>\$ 250</u>	<u>\$ 200</u>	<u>\$ 450</u>	<u>\$ 400</u>	<u>\$ 1,930</u>
(g) Total project costs .....	\$ 633	\$ 670	\$ 560	\$ 3,109	\$ 2,958	\$ 7,930
(h) LESS: Non-federal contribution .....	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
(I) Net Federal total project cost (TPC) .....	\$ 633	\$ 670	\$ 560	\$ 3,109	\$ 2,958	\$ 7,930
b. Related annual funding (estimated life of project--40 years)						
(1) Facility operating costs .....						\$ 270
(2) Facility maintenance and repair costs .....						60
(3) Programmatic operating expenses directly related to the facility .....						0
(4) Capital equipment not related to construction but related to the programmatic effort in the facility .....						50
(5) GPP or other construction related to the programmatic effort in the facility .....						0
(6) Utility costs .....						50
(7) Other costs .....						<u>0</u>
Total related annual funding .....						\$ 430

1. Title and Location of Project:	Hazardous Waste Treatment and Processing Facility, Pantex Plant, Amarillo, Texas	2a. Project No.: 92-D-172
		2b. Construction Funded

11. Schedule of Project Funding and Other Related Funding Requirements:

- b. Total related annual funding requirements - It is estimated that the facility will be used 15 years for its programmatic purpose.
  - (1) Facility operating costs - The major elements comprising the annual operating costs are for energy costs, labor costs, and operating costs of mechanical equipment. To operate the facility, fourteen operators on a one shift rotation will be required.
  - (2) Routine maintenance will be completed by the Pantex plant craftsmen. Maintenance and repair costs have been included.
  - (3) There are no programmatic operating expenses directly related to the facility.
  - (4) There are no capital equipment costs not related to construction that are related to the programmatic effort in the facility.
  - (5) There are no maintenance, repair, GPP, or other construction costs related to the programmatic effort of the facility.
  - (6) Utility costs are estimated as shown.
  - (7) Other costs

1.	Title and Location of Project: Hazardous Waste Treatment and Processing Facility, Pantex Plant, Amarillo, Texas	2a. Project No.: 92-D-172
		2b. Construction Funded

12. Narrative Explanation of Total Project Funding and Other Related Funding Requirements:

- a. Total project funding
  - (1) Total facility costs - The facility cost is the only direct related to this project. There are no operating expense funded equipment.
    - (a) Line item - Design and construction of the main building, the ramp connecting the main building to Building 16-16, improvements to land and utilities.
    - (b) PE&D - Preparation and update of functional design requirements.
    - (c) Expense-funded equipment - Primarily for Per macon type task enclosures to be used for contaminant containment during processing.
    - (d) Inventories - N/A
    - (e) Non-federal contribution - N/A
  - (2) Other project costs
    - (a) R&D necessary to complete construction - N/A
    - (b) Conceptual design - Preparation of original and subsequently 3 revisions of conceptual design reports and design criteria updating design requirements.
    - (c) Decontamination & decommissioning (D&D) - N/A
    - (d) Site characterization - N/A
    - (e) NEPA - Preparation of an environmental assessment which was later rolled into the SWEIS. Also, preparation of additional data incorporated into the SWEIS.
    - (f) Other project-related costs - i.e. PMP \$50K; QA Plan \$20K; HAXOP \$25K; Related BCE purchase \$0.
    - (g) Non-federal contribution - N/A

ERRATA SHEET  
DEPARTMENT OF ENERGY  
FY 1998 CONGRESSIONAL BUDGET REQUEST  
(Changes from FY 1997 Congressional Budget Request are denoted with a vertical line in left margin.)

NATIONAL DEFENSE ASSET ACQUISITION  
(Tabular dollars in thousands. Narrative material in whole dollars.)

Office of Waste Management

1. Title and Location of Project:	Replacement High-Level Waste Evaporator, Savannah River Site/Aiken, South Carolina	2a. Project No.: 89-D-174 2b. Construction Funded
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SIGNIFICANT CHANGES

- o No Significant change.

ERRATA SHEET  
DEPARTMENT OF ENERGY  
FY 1998 CONGRESSIONAL BUDGET REQUEST  
(Changes from FY 1997 Congressional Budget Request are denoted with a vertical line in left margin.)

NATIONAL DEFENSE ASSET ACQUISITION  
(Tabular dollars in thousands. Narrative material in whole dollars.)

Office of Waste Management

1. Title and Location of Project:	Replacement High-Level Waste Evaporator, Savannah River Site/Aiken, South Carolina	2a. Project No.: 89-D-174
3a. Date A-E Work Initiated, (Title I Design Start Scheduled):	3rd Qtr. FY 1989	2b. Construction Funded
3b. A-E Work (Titles I & II) Duration:	60 months	5. Previous Cost Estimate:
4a. Date Physical Construction Starts:	2nd Qtr. FY 1990	Total Estimated Cost (TEC) -- \$118,200
4b. Date Construction Ends:	2nd Qtr. FY 1999	Total Project Cost (TPC) -- \$167,852
		6. Current Cost Estimate:
		TEC -- \$118,024 <sup>a/</sup>
		TPC -- \$153,924 <sup>a/</sup>

7. Financial schedule (Federal Funds):

<u>Fiscal Year</u>	<u>Appropriation</u>	<u>Adjustments</u>	<u>Obligations</u>	<u>Costs</u>
Previous	\$ 24,070	+ 14,380 <sup>a/</sup>	\$ 38,450	\$ 16,795
1992	14,159		14,159	13,385
1993	15,399		11,000	16,800
1994	12,974		17,013	28,005
1995	18,000	- 5,000 <sup>b/</sup>	13,000	13,416
1996	11,500		11,500	13,008
1997	11,500		11,500	11,664
1998	1,042		1,042	3,468
1999	0		235	1,483

<sup>a/</sup> Accounting adjustment of \$380,000 to correct previous accounting deficiencies and FY 1991 Reprogramming of \$14,000,000.

<sup>b/</sup> Use of current year funds (\$5,000,000) for Productivity Savings.

<sup>c/</sup> Reduction to project total cost reflects better estimates.

## ERRATA SHEET

1. Title and Location of Project:	Replacement High-Level Waste Evaporator, Savannah River Site/Aiken, South Carolina	2a. Project No.: 89-D-174 2b. Construction Funded
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### 8. Project Description, Justification and Scope

The Replacement High-Level Waste Evaporator (RHLWE) will provide the cost-effective waste concentration facility necessary for waste solidification programs at the Savannah River Site (SRS). The proposed facility is capable of removing 7.6 million gallons of water each year from the waste management complex after final processing through the existing Effluent Treatment Facility. Along with two other existing evaporators, it will be able to handle the additional volume of waste generated by the Defense Waste Processing Facility (DWPF) and associated waste tank farm processes.

The RHLWE will evaporate water from liquid, high activity radioactive waste so that less volume is needed for long-term storage. The RHLWE is needed to ensure that waste solidification operations including DWPF at the SRS are not limited by waste tank farm space. Space in the tank farms is currently being maximized by existing evaporators. The 242-2H evaporator is operational yet unreliable, and cannot process high heat waste from H Canyon. The 242-2F evaporator has been converted to process both high heat and low heat waste. The 242-1F evaporator has become unreliable, inefficient and is no longer operational. The 242-1H evaporator has been shutdown due to equipment failure. There are no plans to restart the 242-1F and 242-1H evaporators. The 242-2H, 242-2F evaporators, and RHLWE will be needed for the DWPF recycle, Extended Sludge Processing (ESP) washwater, and long term HLW system operation.

In yearly operating costs alone, the new evaporator can produce a significant cost savings. In addition, radiation exposure to personnel will be reduced by 30 man-rem per year, which represents about 80 percent of evaporator-related exposure. Future annual operating cost are anticipated to be \$4,610,000 per year (in FY 1999 dollars).

The H-Area Tank 32, an existing double walled waste tank, will be used as the feed tank. Four existing tanks (Tanks 29, 30, 31, and 37) will be used as concentrate receiver tanks. Underground lines from the new evaporator to the existing tanks will be provided by this project. Underground line to Tank 35 has been descope through change control due to reduced future concentrate receiver tank space needs.

\* In FY 1998 funds will be used to post construction modifications as identified during testing and checkout of the facility; and to complete hot tie-ins on Tanks 29, 30, 31, and 37 gravity drain lines.

The program planning "objectives" supported by this project are: to provide waste tank space to support tank farm ongoing operations; and to provide the waste tank space to support DWPF and ESP operations.

The project will complete 67 percent of hot-tie-ins of gravity, feed, and return lines.

# ERRATA SHEET

1. Title and Location of Project:	Replacement High-Level Waste Evaporator, Savannah River Site/Aiken, South Carolina	2a. Project No.: 89-D-174
		2b. Construction Funded

## 9. Details of Cost Estimate

	<u>Item Cost</u>	<u>Total Cost</u>
a. Design and Management costs .....		\$ 67,390
1. Engineering design and inspection at approximately 89.4 percent of construction costs, Item b (Design, Drawings, and Specifications: \$2,510) .....	\$ 41,490	
2. Construction Management Costs .....	15,110	
3. Project management at 23.2 percent of construction costs (item c) .....	10,790	
b. Land and land rights .....		0
c. Construction costs .....		46,430
1. Improvements to land .....	4,640	
2. Buildings .....	13,930	
3. Other structures .....	6,960	
4. Utilities .....	2,320	
5. Special facilities .....	18,580	
d. Standard equipment .....		0
e. Major computer items .....		0
f. Removal cost less salvage .....		0
g. Design and project liaison, testing, checkout and acceptance .....		<u>0</u>
h. Subtotal .....		\$113,820
I. Contingencies at approximately 4 percent of above costs .....		<u>4,204</u>
j. Total line item cost (section 12, a. 1. (a) .....		\$118,024
k. LESS: Non-Federal contribution .....		<u>0</u>
l. Net Federal total estimated cost (TEC) .....		\$118,024

The DOE escalation rates (% per year) used for this estimate are as follows:

<u>Fiscal Year</u>	<u>FY 1996</u>	<u>FY 1997</u>	<u>FY 1998</u>	<u>FY 1999</u>
Escalation	3.5	3.5	3.5	3.3

The above estimate includes \$1,334,000 for escalation.



# ERRATA SHEET

1. Title and Location of Project:	Replacement High-Level Waste Evaporator, Savannah River Site/Aiken, South Carolina	2a. Project No.: 89-D-174
		2b. Construction Funded

## 10. Method of Performance

Design was performed by the Site's Project Engineering Services Contractor. Construction and procurement are being accomplished by the Management and Operating (M&O) contractor, utilizing fixed price subcontracts awarded on the basis of competitive bidding to the maximum extent feasible.

## 11. Schedule of Project Funding and Other Related Funding Requirements

	<u>Previous Years</u>	<u>FY 1996</u>	<u>FY 1997</u>	<u>FY 1998</u>	<u>Outyears</u>	<u>TOTAL</u>
a. Total facility costs						
(1) Total facility costs						
(a) Line item (Section 9) . . . . .	\$88,401	\$13,008	\$11,664	\$ 3,468	\$ 1,483	\$118,024
(b) Plant Engineering & Design . . . . .	0	0	0	0	0	0
(c) Operating Expense Funded equipment . . . . .	0	0	0	0	0	0
(d) Inventories . . . . .	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
(e) Total fac. costs (Federal and Non-Federal) . . .	\$88,401	\$13,008	\$11,664	\$ 3,468	\$ 1,483	\$118,024
(2) Other project costs						
(a) R&D necessary to complete project . . . . .	\$ 200	\$ 0	\$ 0	\$ 0	\$ 0	\$ 200
(b) Conceptual design costs . . . . .	300	0	0	0	0	300
(c) Decontamination & decommissioning (D&D) . . . . .	0	0	0	0	0	0
(d) NEPA documentation costs <u>a/</u> . . . . .	0	0	0	0	0	0
(e) Other project-related costs . . . . .	<u>12,772</u>	<u>1,116</u>	<u>10,013</u>	<u>8,902</u>	<u>2,597</u>	<u>35,400</u>
(f) Total other project costs . . . . .	<u>\$13,272</u>	<u>\$1,116</u>	<u>\$10,013</u>	<u>\$8,902</u>	<u>\$2,597</u>	<u>\$35,900</u>
(g) Total project costs . . . . .	\$101,673	\$14,124	\$21,677	\$12,370	\$ 4,080	\$153,924
(h) LESS: Non-federal contribution . . . . .	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
(i) Net Federal total project cost (TPC) . . . . .	\$101,673	\$14,124	\$21,677	\$12,370	\$ 4,080	\$153,924

a/ These costs included in other project-related costs.

ERRATA SHEET

1. Title and Location of Project:	Replacement High-Level Waste Evaporator, Savannah River Site/Aiken, South Carolina	2a. Project No.: 89-D-174
		2b. Construction Funded

11. Schedule of Project Funding and Other Related Funding Requirements (continued)

b. Related annual funding (estimated life of project--30 years) a/

(1) Facility operating costs .....	\$ 3,749
(2) Facility maintenance and repair costs .....	861
(3) Programmatic operating expenses directly related to the facility .....	0
(4) Capital equipment not related to construction but related to the programmatic effort in the facility .....	0
(5) GPP or other construction related to the programmatic effort in the facility .....	0
(6) Utility costs .....	0
(7) Other costs .....	<u>0</u>
Total related annual funding .....	\$ 4,610

## ERRATA SHEET

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1. Title and Location of Project:	Replacement High-Level Waste Evaporator, Savannah River Site/Aiken, South Carolina	2a. Project No.: 89-D-174
		2b. Construction Funded

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### 12. Narrative Explanation of Total Project Funding and Other Related Funding Requirements

- a. Total project funding
  - (1) Total facility costs
    - (a) Line item--Narrative not required.
    - (b) PE&D--None.
    - (c) Expense-funded equipment--None.
    - (d) Inventories--None.
    - (e) Non-Federal Contribution--None.
  - (2) Other project costs
    - (a) R&D necessary to complete construction--Activities necessary to improve process and equipment (\$200,000).
    - (b) Conceptual design--Includes preparation of a cost estimate for project authorization and preparation of the conceptual design package (\$300,000).
    - (c) Decontamination & decommissioning (D&D)--None.
    - (d) NEPA documentation costs--Included in other project-related costs.
    - (e) Other project related costs--Includes site characterization and NEPA, studies to optimize process and equipment, environmental permits, ORR, startup, testing, training, spare parts, equipment checkout and run-in assistance (\$35,400,000).
    - (f) Non-Federal contribution--None.
- b. Related annual funding
  - (1) Facility operating costs--\$3,749,000 includes operating manpower, supplies and energy. The base operation requires two operators (on a four-shift basis). It is estimated that operation of this facility will provide a net annual cost reduction based on the reduced operating (manpower, energy, supplies) cost obtained by retiring the 242-1F evaporator, and potential DWPF waste reduction. The RHLWE is a replacement facility and will require 29.2 full-time equivalents based on FY 1994 experience at 242-2H evaporator.
  - (2) Facility maintenance and repair costs--\$861,000 and 6.7 full-time equivalents based on FY 1994 experience at 242-2H evaporator.
  - (3) Programmatic operating expenses directly related to the facility--None.
  - (4) Capital equipment not related to construction but related to the programmatic effort in the facility--None.
  - (5) GPP or other construction related to programmatic effort--None.
  - (6) Utility costs--None.
  - (7) Other costs--None.

ERRATA SHEET  
DEPARTMENT OF ENERGY  
FY 1998 CONGRESSIONAL BUDGET REQUEST  
(Changes from FY 1997 Congressional Budget Request are denoted with a vertical line in left margin.)

NATIONAL DEFENSE ASSET ACQUISITION  
(Tabular dollars in thousands. Narrative material in whole dollars.)

Office of Waste Management

1. Title and Location of Project:	Decontamination and Waste Treatment Facility, Lawrence Livermore National Laboratory, Livermore, California	2a. Project No.: 86-D-103 2b. Construction Funded
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SIGNIFICANT CHANGES

- o The Mixed Waste Management Facility requirements have been deleted from the project scope.
- o The Resource Conservation and Recover Act Closure costs for current operations, which will be discontinued when the Decontamination and Waste Treatment Facility becomes operational, are included in the Total Project Cost.

ERRATA SHEET  
DEPARTMENT OF ENERGY  
FY 1998 CONGRESSIONAL BUDGET REQUEST  
(Changes from FY 1997 Congressional Budget Request are denoted with a vertical line in left margin.)

NATIONAL DEFENSE ASSET ACQUISITION  
(Tabular dollars in thousands. Narrative material in whole dollars.)

Office of Waste Management

1. Title and Location of Project:	Decontamination and Waste Treatment Facility, Lawrence Livermore National Laboratory, Livermore, California	2a. Project No.: 86-D-103
		2b. Construction Funded
3a. Date A-E Work Initiated, (Title I Design Start Scheduled):	3rd Qtr. FY 1986	5. Previous Cost Estimate:
		Total Estimated Cost (TEC) -- \$68,005
3b. A-E Work (Titles I & II) Duration:	48 months	Total Project Cost (TPC) -- \$69,774
4a. Date Physical Construction Starts:	2nd Qtr. FY 1988	6. Current Cost Estimate:
		TEC -- \$68,005
4b. Date Construction Ends:	4th Qtr. FY 2000	TPC -- \$69,774

7. Financial Schedule (Federal Funds):

<u>Fiscal Year</u>	<u>Appropriation</u>	<u>Adjustments</u>	<u>Obligations</u>	<u>Costs</u>
Prior Years	\$ 45,852	- 27,060 <u>a/</u>	\$ 18,792	\$ 9,432
1994	10,260	- 8,000 <u>b/</u>	2,260	74
1995	5,900	- 905 <u>c/</u>	4,995	1,746
1996	8,885	- 500 <u>d/</u>	8,385	7,027
1997	10,000		10,000	12,796
1998	23,573		11,250	13,125
1999	0		12,573	15,305
2000	0		0	8,500

a/ Reflects \$25,000,000 approved FY 1990 reprogramming for the Waste Isolation Pilot Plant and an FY 1992 General Reduction of \$2,060,000.

b/ Reflects prior year funds used for FY 1994 General Reduction.

c/ Use of current year funds (\$905,000) for Productivity Savings.

d/ Use of prior year funds to meet uncOSTed offset to FY 1997 Appropriation.

## ERRATA SHEET

1. Title and Location of Project:	Decontamination and Waste Treatment Facility, Lawrence Livermore National Laboratory, Livermore, California	2a. Project No.: 86-D-103 2b. Construction Funded
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### 8. Project Description, Justification and Scope

This project has experienced a number of scope changes since its inception. The original scope in FY 1986, consisted of a Liquid Waste Processing Facility, a Decontamination Facility, an operational Support Building, mechanical/electrical utility upgrades, and site preparation. The project was located in the southeast corner of the laboratory and the Total Project Cost (TPC) was \$11,700,000. Between 1987 and 1990, the location of the site was changed to the northeast corner of the laboratory, due to the potential for seismic activity. The scope was increased to include a Solid Waste Processing Building, an incinerator and burn pan, a boiler and chiller plant, a Reactive Materials Building, and a Storage Building. The TPC increased to \$40,900,000. In 1990, the Lawrence Livermore National Laboratory Director adopted the recommendation of an internal laboratory panel to delete the incinerator and burn pan from the scope of the project due to public opposition. In 1993, a new baseline was approved which deleted the incinerator and the decontamination building, and added the Real Time Radiography Building, the Transuranic handling facility and the upgrade of Building 494 for mixed waste process development and engineering, increasing the TPC to \$74,769,000. In 1993, DOE Oakland did an Integrated Waste Management Study which evaluated the waste management needs of LLNL and concluded that the scope of DWTF did not meet these needs. This resulted in the Alternative Design Review (ADR), which further evaluated the laboratory's waste management needs and compared various options for meeting these needs. The Baseline Change Proposal approved in December 1996, is based on deleting the portion of scope associated with the Mixed Waste Management Facility (MWMF). In addition, RCRA closure of the old processing areas will be required within 180 days of moving to the new facility. This revised baseline represents the final path forward for the design and construction of the facility.

The scope is described in the Construction Project Data Sheet which follows.

This project will enhance, improve, and expand hazardous waste and mixed waste management at the Laboratory through the construction of approximately 115,500 square feet of new, state-of-the-art facilities for decontamination and waste treatment processes and mixed waste process development and engineering support. This project will provide new, centralized and integrated facilities for Hazardous Waste Management (HWM) operations that will meet the requirements for Low Hazards Category 3 Facility. Note that the equipment for the demonstration is not included in the TPC of this line item. The project will include the design and construction of new buildings on a nine-acre site located in the northeast sector of the Laboratory; it will share the site with existing HWM Building 693.

## ERRATA SHEET

1. Title and Location of Project:	Decontamination and Waste Treatment Facility, Lawrence Livermore National Laboratory, Livermore, California	2a. Project No.: 86-D-103 2b. Construction Funded
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### 8. Project Description, Justification and Scope (continued)

A 1993 Waste Management study led to an Alternative Design Review which evaluated various options for meeting LLNL's waste management needs. The results of this study were incorporated into a Rebaseline Document (Conceptual Design level). The revised project scope is based on the Rebaseline Document published in November 1994.

\* This project will provide new, centralized and integrated facilities for the HWM operations that will meet the requirements for a Low Hazard Category 3 Facility. The project will include the design and construction of seven new buildings totaling approximately 79,360 square feet on a 9-acre site located in the northeast sector of LLNL, sharing the same site with existing HWM Building 693. It is anticipated that design and construction will be accomplished in five phases to meet project schedule and funding constraints. A brief description of project scope by phase follows.

- Phase 1 - Site improvements. This phase includes debris removal, excavation, grading, trenching, electrical service, underground utilities, partial paving, curb and gutter, and sidewalks.
- Phase 3 - DWTF. This phase consists of completion of the inside of the LWPB and construction of the Truck Bay, Solid Waste Processing Building (SWPB), Reactive Materials Building, Chemical Exchange Warehouse/High Curie Waste Storage/Classified Waste Storage Building, and the Radwaste Storage Building.
- Phase 4 - DWTF. This phase consists of construction of the Operational Support Building.
- Phase 5 - Final site improvements. This phase consists of all remaining site work for the project, such as final grading, paving, parking facility, fencing, landscaping, and exterior lighting.

The proposed Decontamination and Waste Treatment Facility (DWTF) at LLNL will continue to meet the goals of LLNL's waste management program while significantly enhancing LLNL's waste management capabilities. Enhanced capabilities provided by the revised scope include the following: repackaging of radioactive, mixed and TRU wastes, decontamination and size reduction, treatment of mixed, reactive, sewer diversion wastes and proper storage of radioactive, mixed, hazardous and high-curie waste.

## ERRATA SHEET

1. Title and Location of Project:	Decontamination and Waste Treatment Facility, Lawrence Livermore National Laboratory, Livermore, California	2a. Project No.: 86-D-103 2b. Construction Funded
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### 8. Project Description, Justification and Scope (continued)

In 1990, the RCRA land disposal restrictions became effective, prohibiting the land disposal of untreated hazardous and mixed radioactive wastes. DOE disposal facilities (such as the Nevada Test Site) that previously accepted untreated mixed wastes were no longer permitted to accept such wastes. The proposed DWTF will be capable of treating a portion of land disposal restricted mixed and hazardous wastes.

#### a. Liquid Waste Processing Building

The existing Liquid Waste Facility (514) is an old engine test building constructed in the 1940's for use by the U.S. Navy. The facility has been modified to process radioactive and hazardous liquid wastes through a single process line. Some of the present equipment and much of the present piping is deteriorated and requires expensive repair to maintain operations. The present location, which is separated from the other Hazardous Waste Management facilities, has insufficient space to allow for the additional expansion required to provide complying facilities. Due to the limited treatment technology employed, and excessive volume of end product that is produced it is difficult to solidify for disposal. The present radioactive and mixed wastes solidification building does not meet the ventilation, contamination and confinement requirements of DOE Order 6430.1A. Continuing maintenance and improvement has not alleviated the situation. In addition to the liquid waste processing systems, the new building will house the analytical laboratory, maintenance shop, and a silver recovery facility. The advantages of the facility include:

- o Siting the new facility in a location which meets the seismic requirement of RCRA and the State.
- o Providing sufficient treatment to assure meeting the new restrictive discharge limits established by regulators.
- o Providing more efficient technology to minimize disposal volume to comply with environmental regulations and DOE Orders.
- o Providing close capture ventilation and spill containment systems to comply with the environmental regulations which limit air emissions and prohibit liquid discharges to the environment.
- o Designing mitigative and preventive features to meet current requirements of DOE Orders and LLNL Health and Safety standards in accordance with the hazardous classification.
- o Consolidating the liquid waste operation into a centralized hazardous waste management facility which will optimize manpower and facility utilization.



## ERRATA SHEET

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1. Title and Location of Project:	Decontamination and Waste Treatment Facility, Lawrence Livermore National Laboratory, Livermore, California	2a. Project No.: 86-D-103
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### 8. Project Description, Justification and Scope (continued)

#### b. Waste Receiving, Classification, and Solid Waste Processing Building

##### Receiving and Classification Area

Receiving and classification is currently being performed in an open shed with limited space resulting in many containers being stored outdoors and the remainder receiving only minimal weather protection. There are no facilities to properly segregate incompatible wastes, and nothing to contain spills or container ruptures as required by RCRA, California hazardous wastes regulations, and DOE Orders. An open area is still used. Although spills are contained, they would mix with rainwater. The new facility will provide the space necessary to receive, segregate, and store chemical and radioactive containers of all types and sizes until the proper analysis and classification is completed and a determination made on the treatment, packaging and shipping methods required to properly prepare them for ultimate safe disposal. A work station will be included in the facility for maintaining incoming and outgoing shipping documentation and inputting data to the central computer through a terminal. The building will also house the personnel change and shower facilities.

##### Solid Waste Processing Area

Radioactive solid waste processing consists of packaging and compacting of low-level waste and transuranic (TRU) waste and is presently done in the Building 612, Dry Waste Facility which is seismically deficient and cannot meet the ALARA (As Low As Reasonably Achievable) requirements of DOE Order 6430.1A. Specific advantages of the new facility are:

- o Meeting the UBC and LLNL seismic requirements.
- o Increasing processing capability with safer handling and control.
- o Provides TRU size reduction, packaging, and container inspection capability.
- o Provides space for real time radiography (RTR) equipment to be transferred from another location.
- o Provides space for segmented gamma scanner or equivalent.
- o Designing mitigative and preventive features to meet current requirements of DOE Orders and LLNL Health and Safety standards in accordance with the hazard classification.

## ERRATA SHEET

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1. Title and Location of Project:	Decontamination and Waste Treatment Facility, Lawrence Livermore National Laboratory, Livermore, California	2a. Project No.: 86-D-103
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8. Project Description, Justification and Scope (continued)

Container Washing Area

A container washing area will be included as part of the Waste Receiving, Classification, and Solid Waste Processing Building to provide adequate facilities for cleaning the non-radioactive waste containers and permit their reuse. This facility will assure compliance with the waste compatibility standards and container washing and rinsing requirements of RCRA and the DOHS.

c. Reactive Materials Building

Because the DWTF had to be relocated to the northeast corner of the laboratory, the existing Reactive Materials Building 614 cannot be used. A new facility will have to be constructed at the new DWTF site to store reactive waste and to house the process equipment which allows for the safe reaction and neutralization of small quantities of a large variety of highly reactive exotic gases and chemicals that offsite commercial disposers will not accept.

d. Storage Building

Radioactive Waste Storage Area

Radioactive and mixed wastes stored at the present Hazardous Waste Management site are stored outside exposing them to the weather. The radioactive waste storage area is required at the new DWTF in order to provide safe and compliant storage for radioactive and mixed wastes.

Clean Storage Area

It was intended to modify existing Building 612 to provide an enclosed storage area for clean containers, treatment chemicals, and supplies. Now that the DWTF site has been relocated away from the existing Hazardous Waste Management site, a new building must be constructed to provide the necessary protection needed to maintain new waste storage containers in good condition prior to use and to assure safe and proper storage for treatment chemicals and supplies.

## ERRATA SHEET

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1. Title and Location of Project:	Decontamination and Waste Treatment Facility, Lawrence Livermore National Laboratory, Livermore, California	2a. Project No.: 86-D-103
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8. Project Description, Justification and Scope (continued)

e. Operational Support Building

This facility will provide the following:

- o Central support for the four major operational functions; waste receiving and shipping, mixed aqueous waste treatment, solid LLW waste processing and storage.
- o Bring together the supervisory, administrative, technical support, and operational personnel currently housed in dispersed locations.
- o House the Hazardous Waste Management computer system for tracking hazardous waste and providing on-line information on waste material during emergency conditions.
- o Provide a training room to meet the requirements of 40 CFR 264.16 for training of personnel in handling hazardous waste.
- o Provide a centralized reference library for hazardous waste information.
- o Provide access control for DWTF personnel and visitors entering and leaving the DWTF facilities.

f. Standby Generator

The standby generator is necessary to supply standby electrical power to critical facilities and operations in the DWTF during and following an earthquake. It must be invulnerable to damage to assure sustained electric power to equipment in the moderate hazard facilities which must continue to operate, i.e., ventilation, fire protection, and alarm systems, and also allow the safe shut-down of critical hazardous waste process systems.

# ERRATA SHEET

1. Title and Location of Project:	Decontamination and Waste Treatment Facility, Lawrence Livermore National Laboratory, Livermore, California	2a. Project No.: 86-D-103
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## 9. Details of Cost Estimate a/

	<u>Item Cost</u>	<u>Total Cost</u>
a. Design and Management costs .....		\$ 14,908
1. Engineering design and inspection at approximately 27.9 percent of construction costs, Item c (Design, Drawings, and Specifications: \$7,758) .....	\$ 9,810	
2. Construction Management Costs .....	1,178	
3. Project management at 7.9 percent of construction costs (item c) .....	3,920	
b. Land and land rights (EIS, SAR, and Environmental Permits to construct and operate) .....		6,647
c. Construction costs .....		30,132
1. Improvements to land (including grading, paving, walks and landscaping) .....	721	
2. Buildings (LWPB-appx 37,600 sf at appx \$262/sf; Waste Receiving/Solid Waste/Truck Bay-appx 25,500 sf at appx \$178/sf; CHEW/High Curie Waste Storage-appx 5,960 sf at \$100/sf; and Operations Support-appx 10,300 sf at \$179/sf) .....	22,846	
3. Other structures .....	0	
4. Utilities (including boiler/chiller, mechanical, power, communications storm and sanitary sewer) .....	2,111	
5. Special facilities .....	3,954	
6. Activation and security .....	500	
d. Standard equipment (See Schedule 2) .....		862
e. Major computer items .....		0
f. Removal cost less salvage (See Schedule 3) (RCRA Closure Costs) .....		2,601
g. Design and project liaison, testing, checkout and acceptance .....		0
h. Subtotal .....		\$ 55,150
i. Contingencies at approximately 16 percent of above costs .....		7,212
j. Total line-item cost (section 12, a. 1. (a)) .....		\$ 62,362
k. LESS: Non-Federal contribution .....		0
l. Net Federal total estimated cost (TEC) .....		\$ 62,362

a/ The ED&I costs include the costs from the completed original design which cannot be used. These costs are unrecoverable.

## ERRATA SHEET

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1. Title and Location of Project:	Decontamination and Waste Treatment Facility, Lawrence Livermore National Laboratory, Livermore, California	2a. Project No.: 86-D-103 2b. Construction Funded
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### 10. Method of Performance

Current estimate based on re-baseline cost estimate. Escalation is applied according to LLNL Cost Estimating Procedures and LLNL approved escalation rates. This project has been estimated with full overhead. LLNL and the Department of Energy Oakland Operations Office are in the process of reviewing the possibility of an incremental overhead rate for construction projects. Based on the approval of an incremental overhead rate, the actual rate applied may be less than the project was originally estimated.

Contracting arrangements are as follows:

Design will be on the basis of a negotiated architect-engineer contract. Major equipment requiring long-lead time will be purchased by LLNL early in the project on the basis of competitive bidding. To the extent feasible, construction will be accomplished by a fixed-price contract awarded on the basis of competitive bidding. Minor architect-engineering work and activation will be performed by LLNL forces.

# ERRATA SHEET

1. Title and Location of Project:	Decontamination and Waste Treatment Facility, Lawrence Livermore National Laboratory, Livermore, California	2a. Project No.: 86-D-103
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## 11. Schedule of Project Funding and Other Related Funding Requirements

	Previous Years	FY 1996	FY 1997	FY 1998	Outyears	TOTAL
a. Total facility costs						
(1) Total facility costs						
(a) Line-item (Section 10) . . . . .	\$ 11,252	\$ 7,027	\$12,796	\$13,125	\$23,805	\$ 68,005
(b) Plant engineering and design . . . . .	0	0	0	0	0	0
(c) Operating Expense Funded equipment . . . . .	0	0	0	0	0	0
(d) Inventories . . . . .	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
(e) Total facility costs (Federal and Non-Federal) . . . . .	\$ 11,252	\$ 7,027	\$12,796	\$13,125	\$23,805	\$ 68,005
(2) Other project costs						
(a) R&D necessary to complete project . . . . .	\$ 454	\$ 0	\$ 0	\$ 0	\$ 0	\$ 454
(b) Conceptual design costs . . . . .	315	0	0	0	0	315
(c) Decontamination & Decommissioning (D&D) . . . . .	0	0	0	0	0	0
(d) NEPA documentation costs . . . . .	0	0	0	0	0	0
(e) Other project-related costs <sup>a/</sup> . . . . .	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
(f) Total other project costs . . . . .	<u>769</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>769</u>
(g) Total project costs . . . . .	\$12,021	\$ 7,027	\$12,796	\$13,125	\$23,805	\$68,774
(h) LESS: Non-federal contribution . . . . .	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
(i) Net Federal total project cost (TPC) . . . . .	\$12,021	\$ 7,027	\$12,796	\$13,125	\$23,805	\$68,774
b. Related annual funding (estimated life of project--40 years)						
1. Facility operating costs . . . . .						\$ 1,165
2. Facility maintenance and repair costs . . . . .						1,003
3. Programmatic operating expenses directly related to the facility . . . . .						4,700
4. Capital equipment not related to construction but related to the programmatic effort in the facility . . . . .						400
5. GPP or other construction related to the programmatic effort in the facility . . . . .						200
6. Utility costs . . . . .						0
7. Other costs . . . . .						<u>0</u>
Total related annual funding . . . . .						\$ 7,468

<sup>a/</sup> NEPA and Environmental Permitting costs are included in construction line item. Decontamination and Decommissioning will be funded by another project.

## ERRATA SHEET

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1. Title and Location of Project:	Decontamination and Waste Treatment Facility, Lawrence Livermore National Laboratory, Livermore, California	2a. Project No.: 86-D-103
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### 12. Narrative Explanation of Total Project Funding and Other Related Funding Requirements

#### a. Total project funding

##### (1) Total facility costs

- (a) Line-Item - No narrative required.
- (b) Plant engineering and design - No narrative required.
- (c) Expense-funded equipment - No narrative required.
- (d) Inventories - No narrative required.
- (e) Non-Federal Contribution - No narrative required.

##### (2) Other project costs

- (a) R&D necessary to complete construction - Funding of \$454,000 in this classification represents R&D costs required to develop project and seismic criteria.
- (b) Conceptual design - Total funding of \$315,000 in this classification represents the conceptual design cost and other studies determined to be necessary.
- (c) Decontamination & Decommissioning (D&D) - No narrative required.
- (d) NEPA documentation costs - No narrative required.
- (e) Other project related costs - No narrative required.
- (f) Non-Federal contribution - No narrative required.

#### b. Related annual funding

- (1) Facility operating costs - Based on projected space recharge of \$10.00 per square foot -- operating costs of the facility in 1999 are estimated to be \$1,100,000 per year including escalation. The funds for these cost are a normal part of the past and current programs.
- (2) Facility maintenance and repair costs - Labor is estimated at 7.6 FTEs to support the operations at \$132,000 per year for a total annual cost of \$1,000,000. The funds for these people are a normal part of the past and current programs.
- (3) Programmatic operating expenses directly related to the facility - This estimate is for 30 Hazardous Waste Management operating and support personnel at \$132,000 average per person in FY 1999 and for an estimated annual cost of \$750,000 for chemicals, drums, pumps, spare parts, equipment replacement, etc. The operating funds for these people are a normal part of the past and current programs.
- (4) Capital equipment not related to construction but related to the programmatic effort in the facility - This is an average annual estimate which includes both the small items needed for continuous operation of the facility and the occasional large item (over \$200,000) which cannot be described at this time, but can be predicted as needed to maintain technical excellence in efforts conducted in the facility.
- (5) GPP or other construction related to programmatic effort - Initially no GPP costs are anticipated, but to keep abreast of technology, presently undefined alterations will likely be required in the future.
- (6) Utility costs - Included in the space recharge itemized in Facility operating costs.
- (7) Other costs - No narrative required.